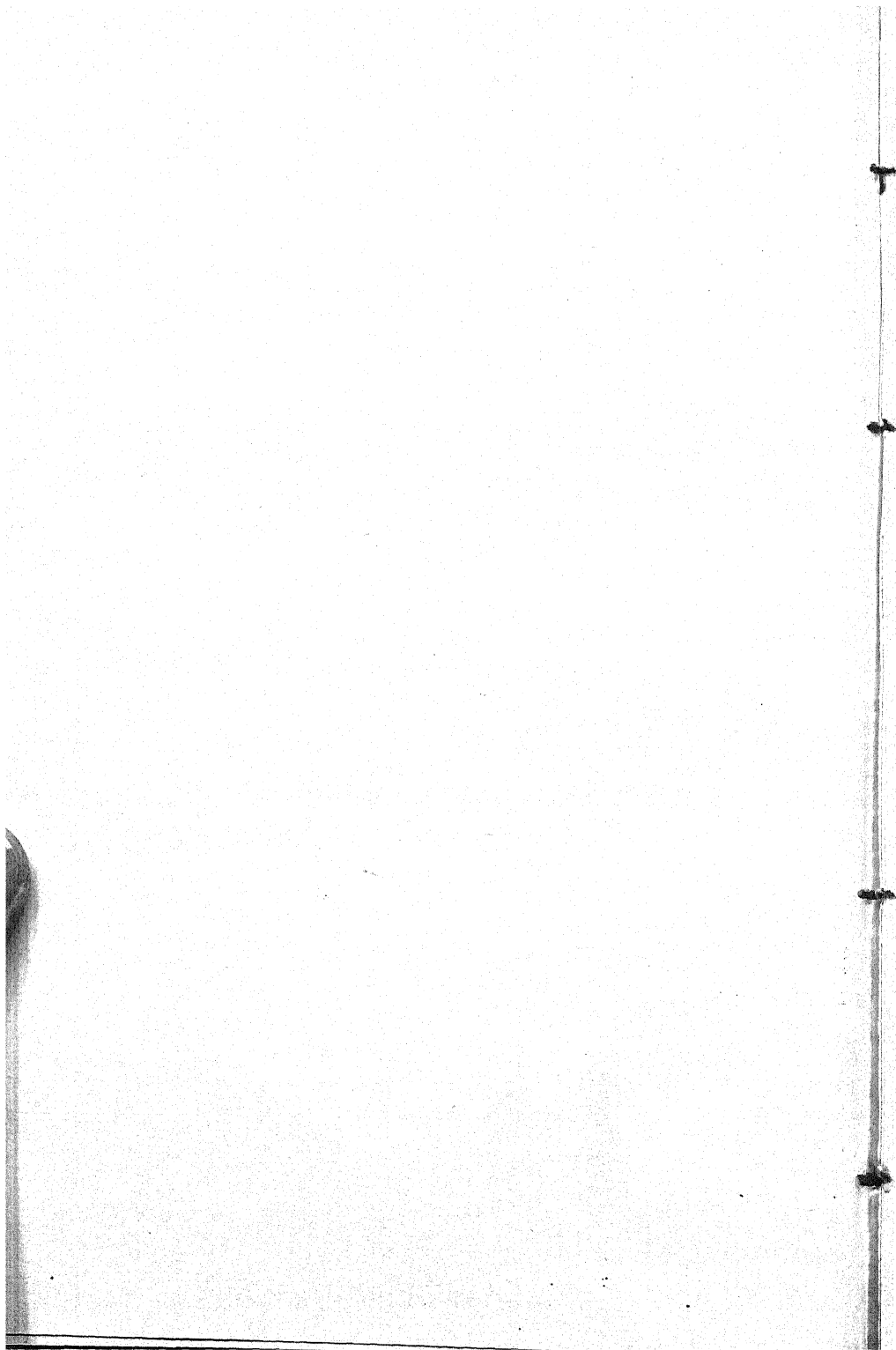


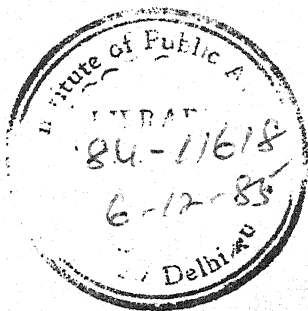
**EVALUATION AND IMPACT OF INTEGRATED DEVELOPMENT  
OF SMALL AND MEDIUM TOWNS PROGRAMME**





# EVALUATION AND IMPACT OF INTEGRATED DEVELOPMENT OF SMALL AND MEDIUM TOWNS PROGRAMME

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## FOREWORD

The Centrally sponsored programme of integrated development of small and medium towns (IDSMT) was launched by the Government of India during the Sixth Plan (1979-80). The programme covered 235 small and medium towns with population of one lakh and below as per 1971 census from all the States and Union territories. The scheme was to be implemented with 50 per cent Central assistance, to be given to the States on matching basis.

The strategy of the scheme is based on the model of promoting development through bettering the services and infrastructural facilities in the selected towns. Hopefully, the development of small and medium towns would reduce migration to large cities and urban agglomerations.

Measurement of 'effects' and 'impact' or the cost-benefit of any development programme is a difficult process. Yet this strenuous task of programme evaluation was undertaken by Dr. R.K. Wishwakarma, the then faculty member of the Institute with the active support of Dr. Ajay Prakash and Shri H.B. Pandey, research faculty.

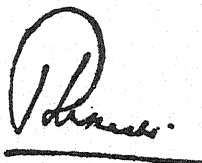
The study brings out many positive contributions of the scheme. The environmental amelioration and upgradation/addition to the services and infrastructure of the towns provided under the scheme led to many secondary developments through 'backward' and 'forward' linkages. For instance, better skills and personnel development may be mentioned as one of the results through 'backward linkages'. Housing project and land development schemes have earned even 100 per cent returns. The employment generation at grassroot levels has worked as a 'push' factor in raising the per capita income, and thereby, helping the urban poor to cross the 'poverty line'. The programme has made its dent on a larger section of population. It has directly benefited about four per cent of the population and has helped in increasing the value of agricultural output.

The study is a competent exercise in programme

evaluation and impact analysis. I am happy to place on record my appreciation of the work done by Dr. R.K. Wishwakarma, Dr. Ajay Prakash and Shri H.B. Pandey in completing this study.

I am sure these findings would prove to be useful to the government and other public sector undertakings in taking certain strategic decisions in regard to feasibility of any project and evaluate the 'spatial effects' of alternative policies and plan programmes. I also hope this volume will be useful for administrators, urban planners, programme evaluators, academicians and researchers.

I am thankful to the Government of India, Ministry of Works and Housing for funding the publication.

A handwritten signature in dark ink, appearing to read 'P. Dubhashi', is written above a horizontal line.

New Delhi  
July 8, 1985

(P.R. DUBHASHI)  
Director  
INDIAN INSTITUTE OF  
PUBLIC ADMINISTRATION

## PREFACE

Any plan programme significantly produces different kinds of development 'effects' on the area and among the affected groups. To evaluate the distribution of these 'effects' and their 'impact' on the welfare of the society, it necessitates an 'objective assessment' of the possible impact of alternative plans and policies and relating these to resource needs, costs and availability with a view: (i) to bring about continuity in the programme, (ii) to oversimplify planning issues, and (iii) to set out different courses of action for decision making. To this end, conventionally various plan evaluation methods have been developed, viz., the 'checklist' approach which compares the emerging plans and policies with lists of criteria which the plan is supposed to satisfy; the 'cost-benefit' approach which measures the incidence of 'benefits' and 'dis-benefits' (costs); the 'planning balance sheet' approach which recognises the political nature of planning decision making by accepting that choice must be made in consideration of a diverse set of elements in the account; and the 'goal achievement' approach of plan evaluation which focusses on problems. Although both 'cost-benefit' and 'goal achievement' approaches have their common origin in the basic planning 'checklist' approach, the latter attempts to determine the extent to which alternative plans will achieve a pre-determined set of 'objectives' or 'goals'.

The measurement of cost-benefit is difficult and tedious process. The worth of a policy must be judged by its contribution to raising some aggregate level of benefits in terms of income and/or improvement in the services and infrastructure enhancing the quality of life for a more humane environment. To overcome these problems of economic optimisation and evaluate the 'spatial effects' of policies, the study has made use of some of these methods including more sophisticated statistical tool of 'discriminant analysis' to distinguish between two groups of cases feasible and infeasible

with respect to the explanatory variables, simultaneously. Being a first and unique evaluation study of its kind, it is bound to have some snags due to lack of information or in the implementation of programme. But an effort has been made to have a scientific evaluation of the programme of integrated development of small and medium towns, taking Sri Ganganagar and Trichur as the two samples covered under the centrally sponsored scheme.

The study has been divided broadly in four parts. The Part One consists of two chapters: 'Introduction' giving the general background and overall profile of integrated development of small and medium towns and the 'Methodology'. Part Two and Three consist of three chapters, each (chapters 3 to 8) dealing with 'Area Profile', 'IDSMT Project Profile' and 'Implementation and Evaluation' both in Sri Ganganagar (Rajasthan) and Trichur (Kerala). Part Four deals with Chapter 9 on 'Project Management: Gains and Constraints' and Chapter 10 'Policy Implications of Evaluation Findings'. Both are based on the evaluation results of the study. I am sure that these evaluation findings would prove to be very useful for the government in taking certain strategic policy decisions for the development of small and medium towns.

I owe a debt of gratitude to Dr. P.R. Dubhashi, Director, IIPA for stimulating my thinking and giving whole hearted administrative support during the course of the study and to the Ministry of Works and Housing for sponsoring and financing this Project.

After my joining the cadre post of Indian Economic Service in the Ministry of Home Affairs, Government of India, the essential but dreary mechanical task of data processing and preparation of the first draft expedited by Shri H.B. Pandey and Dr. Ajay Prakash, Research Officers, has enabled me to complete this assignment within the time schedule.

## ACKNOWLEDGEMENTS

It is our great pleasure to acknowledge with thanks our indebtedness to those who contributed to this effort in numerous ways. First of all, we owe a debt of gratitude to Dr. P.R. Dubhashi, Director, IIPA at whose instance this study was so graciously sponsored by the Ministry of Works and Housing, Government of India. We extend our hearty thanks to the Ministry of Works and Housing and to its representatives, particularly, Shri P.S.A. Sundaram, the then Director (Urban Development) and Shri S.A. Russell, Under Secretary, Incharge IDSMT Programme in the Ministry. Our thanks are also due to Shri Diwakar S. Meshram, T.C.P. in the Town & Country Planning Organisation - the programme monitoring agency for giving useful suggestions in the selection of towns.

This study would not have been possible without the support and cooperation of the officials of the implementing agencies and the concerned departments of the State Governments at the local level in both the study towns during the course of the study. In Sri Ganganagar (Rajasthan), we are thankful to Shri Radhey Shyamji, MLA and Chairman, Urban Improvement Trust, who took personal interest and deputed a team of dedicated officers, namely, Sarvashri O.P. Doraya, Executive Engineer, R.P. Chaudhary, Secretary, G.C. Gupta, Assistant Engineer, Y.L. Bhasin, Assistant Executive Engineer, S.K. Dhawan, Assistant Accounts Officer to provide all the necessary information required. Our thanks are also due to Sarvashri Farid Khan, PRO and Mohan Singh Verma, Accounts Officer of the Municipal Council, Associate Town Planner of the State Department of Town and Country Planning, District Transport Officer, Station Master, Northern Railway, Sri Ganganagar, District Statistical Officer, District Industries Officer, Assistant Engineer, Krishi Upaj Mandi Samiti, Sri Ganganagar and Superintendent, Electricity Board and at the state level, the Director of Census Operations, Government of Rajasthan.

In Trichur (Kerala), we are thankful to Prof. N.D.

George, Chairman, Municipal Council, Trichur, Sarvashri C. Rabindra Nath, Municipal Commissioner, M. Mukandan, Municipal Engineer, Shreedhar, Assistant Executive Engineer, for their cooperation and possible help during the course of project evaluation and study. We are also thankful to many officials of other departments in Trichur, who have been helpful in providing data and useful information for the study. In particular, mention may be made of Sarvashri Raman Srivastava, Superintendent of Police, Trichur, Gopinathan, Assistant Planner, Trichur Urban Development Authority and many other officials such as District Transport Officer, District Statistical Officer, District Industries Officer, Trichur. At the state level, we are thankful to Shri Mathew Varghese, Chief Planner, State Department of Town & Country Planning for providing necessary help and deputing Sri K.G. Nadarajan, Senior Town Planner for providing valuable information at the time of Project Director's visit to Trichur to have a preliminary assessment of the implementation of IDSMT Programme. Thanks are also due to the Director of Census Operations, Trivandrum for providing useful information. Besides, special mention may be made of Mr. Francis Neelankavil and Mr. Justin George, Local Field Investigators for rendering useful services during the course of survey and filling up of the peoples schedules in Trichur. Our thanks are also due to many sample respondents--the residents of both Sri Ganganagar and Trichur for sparing their valuable time for giving interview during the course of our survey.

We are thankful to our Research Assistants Shri Narendra Khare and Dr. R.C.S. Taragi for providing useful assistance during the project. Although the stay of Dr. Taragi was for a very short time, he provided useful services in the preparation of maps, charts and figures.

We shall be failing in our duty, if we do not record a word of appreciation to Shri Brij Bhushan, Registrar, IIPA, Shri S.K. Kohli and Shri V. Ramakrishna, Deputy Registrars, Shri A.S. Nagar, Assistant Registrar (Finance) and Shri Satya Paul, Assistant Registrar



(Academic) for providing all possible help and administrative support during the course of the project.

In the production of this document, the aid provided by the Corporate Studies Group has been superb. To this, we are sincerely thankful to Prof. S.K. Goyal who was kind enough to have acceded to our request and to Shri G.K. Arora and his team for doing the nice job on the 'Word Processor'.

Our thanks are also due to Shri M.K. Gaur, Assistant Editor and his colleagues in Publication Section for their efficiently handling the highly exacting task of getting the volume printed in record time.

Our thanks are also due to Mrs. Vimla Soni and Miss Sunita whose tireless attention was instrumental to this effort and who kept up to our time schedule. Special mention may also be made to the services rendered by Shri Rakesh Chandra to the officers and members of the staff with all sincerity during the course of the project and to Shri Lila Dhar for making sets.

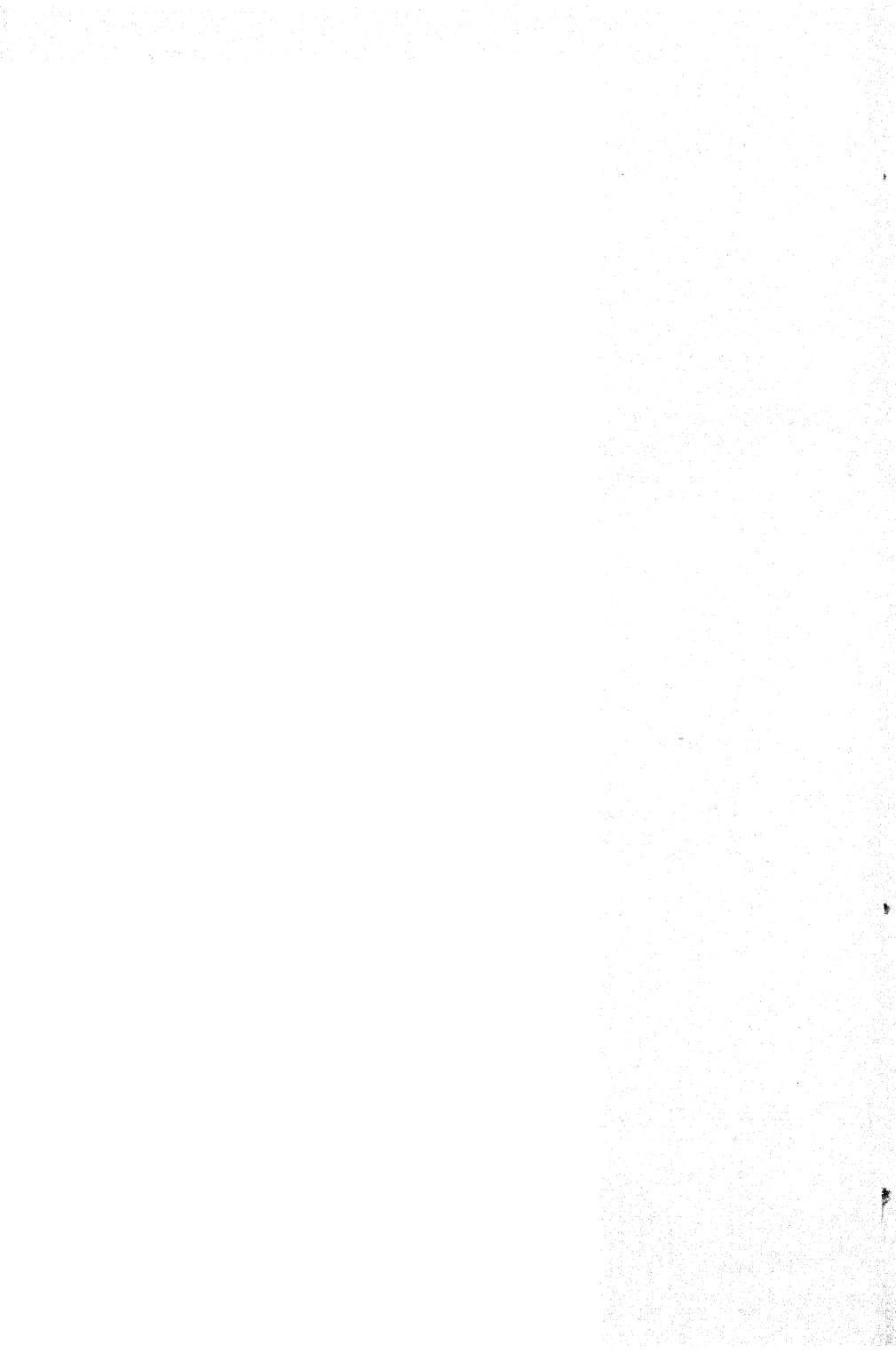
New Delhi  
May 23, 1985

R.K. WISHWAKARMA  
AJAY PRAKASH  
H.B. PANDEY



## GLOSSARY

IDSMT	=	Integrated Development of Small and Medium Towns
BG	=	Broad Gauge
EWS	=	Economically Weaker Section
HIG	=	High Income Group
IUDP	=	Integrated Urban Development Programme
KSRTC	=	Kerala State Road Transport Corporation
KSCCL	=	Kerala State Construction Corporation Limited
KUDFC	=	Kerala Urban Development Finance Corporation
LIG	=	Lower Income Group
MIG	=	Middle Income Group
NCR	=	National Capital Region
NDP	=	Net Domestic Product
NVH	=	Net Value of Agricultural Productivity per Hectare
PS	=	Producers Surplus
PWD	=	Public Works Department
RP	=	Reserved Price
TPO	=	Town Planning Organisation
TRYSEM	=	Training for Rural Youth and Self Employment
TUDA	=	Trichur Urban Development Authority
UIT	=	Urban Improvement Trust
UMIG	=	Upper Middle Income Group
VAD	=	Value Added
VOC	=	Vehicle Operating Cost



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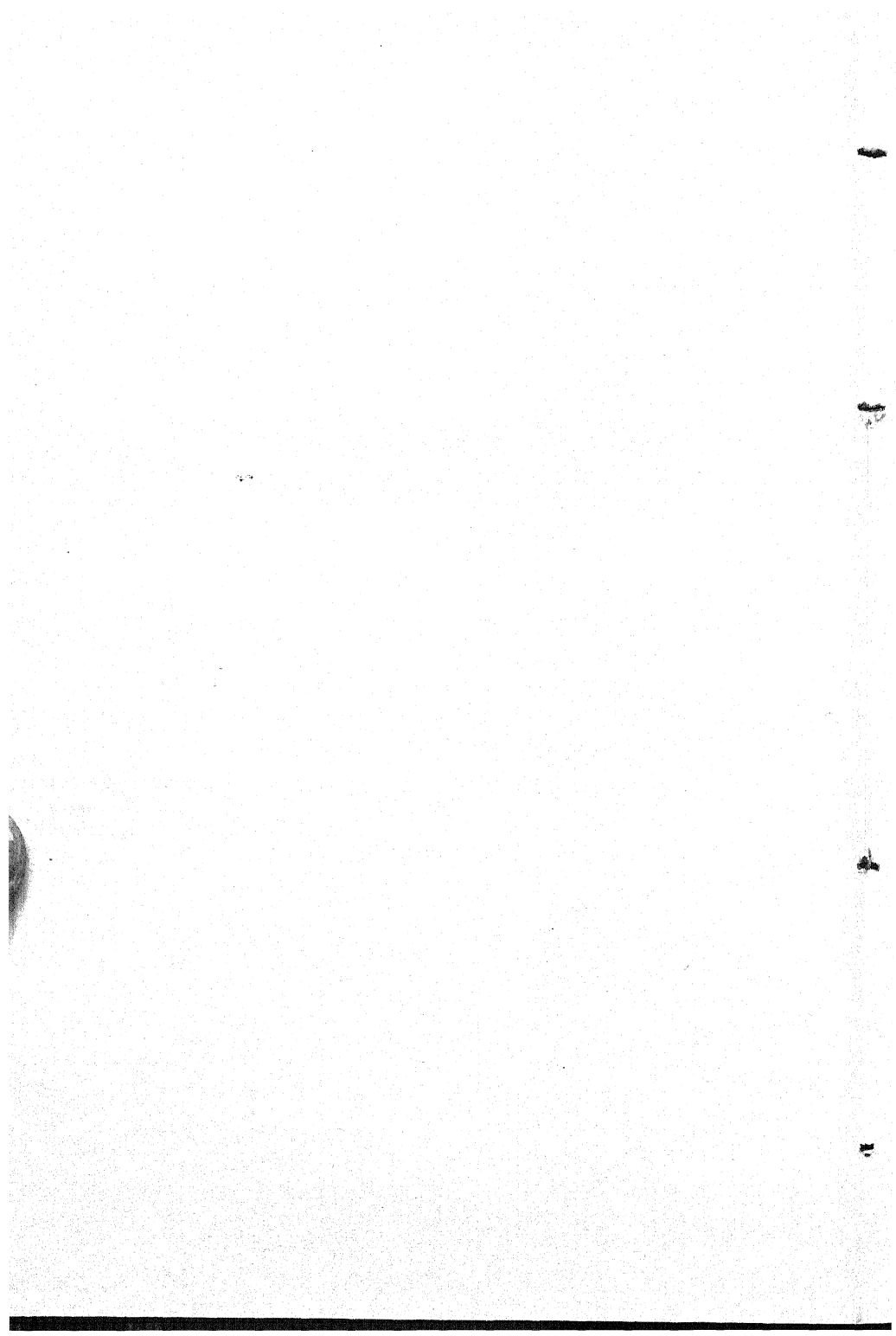
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PART ONE

INTRODUCTION

EVALUATION METHODOLOGY



# 1 INTRODUCTION

One of the characteristic features of development planning in most of the less developed countries is that they exhibit a distinct development policy in favour of small and medium size towns as against large cities which have grown beyond an economic size. Since market forces are unable to assert their growth, deliberate policies are being adopted to promote spatial decentralisation for a more humane organisation of these settlements.

There is a widespread belief that large cities and towns have been growing much faster than small towns in India and that the latter have suffered and, as a result, even declined. But this is not true since the proportion of urban population in these towns and cities above any cut of point continues to increase because of relatively stable structure of the Indian settlement pattern.<sup>1</sup> As a consequence, most of the growth takes place by accretion to the existing towns and cities due to their size and a great variety of growth experience between cities and regions. Although there has been a six-fold increase in urban population from 25.8 million in 1901 to 156 million in 1981, during the past eight decades, the number of urban settlements increased from 1832 to 3245 adding 1411 more towns during the corresponding period. Thus it seems most of the urban growth has occurred relatively in proportion to the size of population of the existing towns and cities. A look at Annexure 1 which gives India's urbanisation level with 27 per cent reveals that it has experienced a relatively more growth of population in metropolitan and large cities due to the stable structure of their economy. About 85.80 million (60 per cent)

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of urban population is living in 216 class I cities of 1 lakh and above population but a major proportion of this population, i.e., about 60 million (55 per cent) is shared by 12 gigantic human congregations bursting at their seams. And 2,057 small and medium towns in the size-range between 10,000 to 99,999 are sharing about 35.3 per cent of urban population. It is perhaps this disproportionate distribution of population and an unabated growth of metropolitan cities with deteriorating environmental conditions which seems to have led to the adoption of a new policy of urban development in terms of integrated development of small and medium towns. It should be recognised that the policies followed by the Government of India from time to time restricting the growth of industries and their locations, providing incentives for the location of industries in backward areas, and infrastructural investment in specific categories of towns and cities have seldom been strong enough to alter the existing spatial and hierarchical pattern. Policies and programme interventions have been half-hearted, loosely coordinated and even counter-productive.<sup>2</sup> Even on economic front of urban development, the policy implications of raising high levels of living and promoting employment have been vague and least understood.

In the absence of a national urban policy, the planning for urban development has been based on ad hoc approaches to different problems and to different categories of towns and cities. There has been no integrated approach to deal with the problems of urban planning and development. And perhaps, it was in this background that the philosophy of 'integrated' in the form of "integrated urban development programme" (IUDP) for the cities of over 3 lakh population, was introduced during the Fifth Plan. But the review of its implementation made by the Ministry of Works and Housing shows that the scheme was introduced in 31 such cities and a sum of Rs.1360 million was spent during 1974-75 to 1978-79, before it was discontinued.

With the decision of the National Development Council during the Sixth Plan, a centrally sponsored scheme of Integrated Development of Small and Medium Towns (IDSMT) was introduced during 1979-80 covering 235 towns of 1 lakh and below population (Annexure 2) with 50 per cent financial assistance to the states on matching basis. The intent of the programme had been to provide a fillip to the growth of small and medium towns through planned development. The 'Guidelines' for the preparation of 'integrated projects' were issued to the state governments and union territories in December 1979. The thrust of new urban policy enunciated in the second document of the Sixth Five Year Plan (1980-85) was to give greater emphasis to the provision of adequate infrastructural facilities in small and medium towns as well as intermediate towns, which have been neglected, so far. The aim was to strengthen these towns in order to equip them to subserve as growth and service centre for urban hinterland and also reduce the rate of migration to large cities.<sup>3</sup>

The difference of approach between the two Sixth Plan documents is that, in the case of the Sixth Five Year Plan (1978-83), the approach was to slow down and, if possible, reverse the rate of growth of metropolitan cities by paying greater attention to the growth of small and medium towns which possess a greater potential for relieving much of the burden upon large cities, and can function as growth centres for surrounding villages as well as to reduce the rate of migration to the large cities. But in the Sixth Five Year Plan (1980-85) there has been a slight deviation in the policy. Instead of slowing down, and if possible, reversing the rate of growth of metropolitan cities, the new policy is directed to optimise investment from the viewpoint of both regional and national growth by increased investment in large cities for sustaining their economic base as well as improving their conditions of life, and at the same time, making investment in physical and social infrastructure of small and medium towns.

## IDSMT STRATEGY

The idea of integrated development of small and medium towns strategy has been directed towards the total development of the township within the regional context by integrating functional objectives into concerted action plans for the betterment of the social and economic status including the development of services and environmental conditions of the town. The essence of integrated strategy lies in 'operational explorations' and linkages established, while conceptualising the formulation of a plan.<sup>4</sup> Based on the development priorities of the town, the strategy, therefore, requires integration of different goals and objectives, integration of sectors and a wide variety of sectoral components and finally, multi-level convergence of services and their integration over the space for all sectors of the population.<sup>5</sup>

## COVERAGE AND FINANCING

During the Sixth Plan period, it was proposed to cover 235 small and medium towns with a population of 100,000 and below, on the basis of 1971 census, giving preference to the district towns, sub-divisional towns and mandi towns. The towns were selected "carefully with reference to the rate of growth of population, the growth of the district and the region, and the investment taking place in the hinterland".<sup>6</sup> Initially, a sum of Rs.2000 million was earmarked for the programme by the central and state governments. The funds required for the implementation of the programme were to be provided on matching basis by the central government, state government and the implementing agency, i.e., local authority. A sum of Rs.960 million was earmarked in the central sector for IDSMT programme. The component of central assistance in the form of loan was limited to the extent of 50 per cent of the cost of part 'a' components or Rs. 40,00,000 whichever was less, while the balance amount of the project cost would be met from the resources of the



state governments and the implementing agencies. Thus the major share of assistance had to come from the state governments and the implementing agencies to cover the part 'b' components. The intention of central government assistance has been to supplement and strengthen the resources of the implementing agencies and those provided by the state governments. The central assistance is given to the project through state governments and union territories which is to be transferred together with the states' matching share to the implementing agency (generally local authorities) within a period of one month. The implementing agency has also to contribute 20 per cent of the total project cost.

#### IDSMT PROJECT COMPONENTS

The components to be included in the project prepared for implementation of the IDSMT programme and eligible for central and state assistance consists of part 'a' and part 'b' components.<sup>7</sup>

Part 'a' components eligible for central assistance on matching basis are:

- (i) Land acquisition and development: residential schemes which will include sites and services with or without core housing.
- (ii) Traffic and transportation, construction of roads and improvement/upgradation of existing roads, but will not include purchase of motor vehicles.
- (iii) Development of mandis/markets, provision of industrial estates, provision of other services and processing facilities for the benefit of agricultural and rural development in the hinterland.

Part 'b' components for which funds are to be found from state plans but these components must form part of the integrated programme:

- (i) Slum improvement/upgradation, urban renewal and small scale employment generation activity.

## 6 EVALUATION AND IMPACT OF IDSMT PROGRAMME

- (ii) Low cost schemes of water supply, sewerage, drainage and sanitation.
- (iii) Preventive medical facilities and health care.
- (iv) Parks and playgrounds.
- (v) Assistance for the purpose of making modification, wherever necessary in city master plans to permit mixed land-use.

Both these components of development covered under part 'a' and part 'b' themselves speak of the relative importance of their role in the social, economic, physical and environmental dimensions of development and their significance in the integrated development of small and medium towns and their hinterland in the region.

### METHODOLOGY

In the preparation of integrated development plans of small and medium towns, the methodology was laid down in the 'guidelines' issued to the states and union territories. The methodological components for the preparation of IDSMT programmes are given below:<sup>8</sup>

- (i) Identification of development priorities and the needs of specific town selected for integrated development, its function, and gaps and inadequacies in the existing services.
- (ii) To see the conformity of integrated development plan of the town in the general development plan of the area, if there is any.
- (iii) The formulation of the integrated development plan in consultation with the urban local body (i.e., generally an implementing agency).
- (iv) Costing of itemwise projects keeping in view the economic viability of the project in terms of cost recovery.
- (v) To give preference to those projects for which land acquisition procedure are minimal or in an advanced stage of acquisition.
- (vi) Preparation of project reports and financial esti-

mates keeping in view the cost escalation of the project. .

### IMPLICATIONS OF THE STRATEGY

The strategy of integrated development of small and medium towns has been adopted in order to achieve balanced regional development of small and medium towns which provide a kind of buffer between the rural areas, on the one hand, from where a large number of migrants flock towards metropolitan cities, on the other, getting flooded with all kinds of people and the consequent urban problems.<sup>9</sup> The kind of development envisaged is intended to provide greater relief to the metropolitan cities as well as to the small and medium towns themselves not only in terms of generation of more activities and employment opportunities but also in terms of general upgrading of the services which the urban local governments are expected to do. The policy makers also thought of the effectiveness of the programme more in towns which have already their own urban development plans or master plans prepared and under execution. The inherent objective of the design of development of this strategy has been the redistribution of human resources, population and services over the space together with the generation of more economic activities for the surplus or unemployed labour to find out new outlets in other non-agricultural occupations of the town economy.

### IMPLEMENTATION AND PROGRESS

Initially the IDSMT programme covered 231 towns for development from 22 states and 6 union territories. But during the course of sixth plan period, the figure was raised to 237 towns, and out of which, 235 towns have been covered so far. A sum of Rs. 478.439 million out of Rs.960 million or 49.84 per cent of the total central allocation has been utilised so far. These selected IDSMT towns covered a population of 104.47 lakh, as of 1971 which increased to 147.36 lakhs in 1981 and 166.02

lakhs, as of March 1984 (estimates). The percentage share of IDSMT towns to the total urban population was 9.57 per cent in 1971 which has increased to 10.23 per cent in 1984. A statewide progress of the IDSMT programme and the per capita development expenditure (based on central assistance) could be seen vide Annexure 3.

Taking into account the share of central assistance under IDSMT programme, the investment provision of Rs.65.15 per capita was made. But the utilisation of central assistance has been very poor and a per capita investment of Rs.32.46, on the basis of 1981 population and Rs.28.82 as per projected population for the year 1984 was made. However, taking the true meaning of 'financial integration', a total provision of per capita investment of Rs. 162.88 was made in the ratio of 40:40:20 central, state and local body spread over a period of five years. This gives a per capita expenditure of Rs. 32.58 per annum in the IDSMT towns. But in the implementation of IDSMT programme during the course of four years, a per capita investment to the tune of Rs. 72.05 or Rs.18.01 per annum has been made. This gives the total expenditure of only 55.30 per cent made under the programme during 1979-80 to 1983-84.

#### PROJECT EVALUATION: THE NEED FOR

In the process of project implementation, the 'linkages' established, while conceptualising the formulation of an IDSMT project, necessitate evaluation or an assessment of "the overall project effects--both intentional and unintentional, and their impact".<sup>10</sup> Evaluation is, therefore, related to monitoring but both are distinct functions, monitoring is the provision of information, and the use of that information in order to enable the management to assess the progress of implementation and take timely decisions to ensure that progress is maintained as per schedule. It is an internal project activity which is directed to assess "whether project **inputs** are being delivered, are being used as intended, and are having the initial effects as planned".<sup>11</sup>

Monitoring, therefore, is an integral part of day-to-day management. While evaluation draws the data generated by the monitoring system to help explain the trends in effects and impact of the project. Monitoring data may help in revealing significant departure from expected results which may warrant the undertaking of on-going evaluation exercise to examine the assumptions and premises on which the project design has been based.

Monitoring is integrated within the project management structure, while evaluation with its wider horizons requiring comparative information, is not necessarily an integral component. A review of project objective requires systematisation in sequence of effects and impact which shade into each other and will differ-over, 'time', 'scale' and 'scope' of any IDSMT project, i.e.,

- (i) to provide inputs necessary to achieve integrated development of small and medium towns,
- (ii) the delivery and use of these inputs will result in utilization by the beneficiaries,
- (iii) these outputs will, in turn, generate effects amongst the target population by changing the levels of income and expenditure patterns and levels of living, and finally,
- (iv) these effects will have an impact in improving the social and economic condition with other opportunities and the quality of life with more access to better health and education facilities for a more wholesome cultured environment.

#### OBJECTIVES OF THE STUDY

Since evaluation is an assessment of results, it aims at to determine whether the project objectives in terms of expected output, effects and impacts are being, or will be met in order to draw lessons for future improvement in the project design or similar projects elsewhere. Unlike a monitoring system with its emphasis on rapid assessment, an evaluation system requires a longer time span before even tentative conclusions can be drawn. And

## 10 EVALUATION AND IMPACT OF IDSMT PROGRAMME

hence the evaluation of the integrated development of small and medium towns (IDSMT) programme, which started in December 1980 is so short a time span that its evaluation becomes a difficult exercise. But with the size of such a huge investment on integrated projects, the Ministry of Works and Housing - a repository of the scheme, desired an evaluation of the IDSMT programme in the light of the intent and spirit of the project based on both subjective analysis of the factors capable of creating an impact on the target population and an objective analysis of the project performance in terms of achievement, innovative approaches, methods used and possibility of the replication of the project. It is with this background that the towns of Sri Ganganagar in Rajasthan and Trichur in Kerala have been selected for this evaluation study with the following objectives:

- (i) to study project formulation and conceptualisation in terms of integrated development;
- (ii) to study the effectiveness of project proposals and goal performance on the basis of their own assumptions and priorities;
- (iii) to assess the impact of project proposals on the town's economy and physical environment in terms of its enhanced capacity; environmental improvement and augmentation/ upgradation of services; and
- (iv) to study the soundness of project proposals in terms of feasibility and establishing linkages with the hinterland.

Having listed the objectives of the study, we shall now proceed to the next chapter on evaluation methodology.

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## 2 EVALUATION METHODOLOGY

The present case study is an evaluation of the centrally sponsored IDSMT projects in the two towns of Sri Ganganagar in Rajasthan and Trichur in Kerala. The projects are non-routine non-repetitive dynamic activities with discrete time having financial commitments and certain performance objectives. In the present context, the projects falling under integrated development of small and medium towns are of the same nature with well defined performance objectives. And the evaluation analysis has been confined to assess the progress of project implementation and its effects and impacts (i.e., the analysis of the results) within the confines of the following range of indicators: (i) output indicators, including disposal of output (land, plots, shops, dwelling units, etc.); (ii) economic indicators (i.e., employment generation, marketing facilities, consumption and production surplus, net yield, etc.); and (iii) quality of life indicators (i.e., addition and improvement in the town services and amenities, etc.).

Before proceeding for the final project evaluation, a pilot survey of the selected towns was undertaken in September 1983 and the detailed survey proceeded thereafter. Based on the results of this pilot study, the explanatory variables for project evaluation were also selected. Since various IDSMT projects at the time of the pilot study were ongoing and under progress, some dummy variables were also included for the final study. The final data collection and field surveys were undertaken in the month of January 1984 in Sri Ganganagar and February, 1984 in Trichur. The financial assistance data



was updated for the financial year 1983-84.

## PROCEDURES

In order to know the functional change in the towns during the decades 1971 and 1981, 'predominant function' and 'predominant function accentuated', the occupational classification (nine industrial categories) for the two census decades has been adopted. In the case of former, more than three-fourth of the working population is engaged in the functional groups comprising of: (a) forestry, fishing, plantations, mining and quarrying, etc. (Cat. III), household industry (Cat.IV), manufacturing other than household industry (Cat.V), and construction (Cat.VI); (b) trade and commerce (Cat.VII), and transport, storage and communication (Cat.VIII); and (c) other services (Cat.IX). While in the latter case, the functional groups get accentuated if: (i)  $A > B$  or  $C$  by 20 per cent or more, (ii)  $B > C$  or  $A$  by 20 per cent or more, and (iii)  $C > B$  or  $A$  by 20 per cent or more.

The availability of basic infrastructure and services like roads, water, electricity, transport, health, education and other community services has been analysed on the basis of either per capita/per household consumption or demand. However, constraints of 'locational diversities' in certain factors have been removed by necessary estimations. In arriving at such figures, the assistance of various developmental bodies and institutions providing services was taken which has been of immense value.

The programme of integrated development of small and medium towns has an inherent objective of decentralised urban policy to check the flow of migration to the metropolitan cities, on the one hand, and the development of small and medium towns, on the other. The development of these towns and strengthening of their economic base will provide a counter magnet to the big cities. Further, by providing infrastructure and services to the town under component 'A', the IDSMT programme would give further impetus to the development of economic activities and general growth impulses in the economy of the town. The

programme thus has followed the doctrine of unbalanced growth which requires: (i) conversion of 80 per cent agricultural population to 15 per cent and from 5 per cent savers to 15 per cent; (ii) increasing the productivity of agricultural sector which is lower than the non-agricultural sector. The relationship between the agricultural and non-agricultural sectors in India could be generalised more in terms of a model advanced by Hans Singer for the under-developed countries as :  $A = (2/3).N$ , where 'A', is the productivity in agricultural sector, and 'N' is the productivity of the whole economy. In India about 70 per cent population is engaged in agricultural activities; it needs transformation from agricultural to non-aricultural activities and the process, if geared, will bring about structural changes in the economy and generate further its multiplier effects.

The IDSMT programme which serves as an incentive to migrating population would also withdraw certain proportion of surplus labour force from rural areas (agricultural sector) which could be better utilised in some other gainful activities in the secondary and tertiary sectors of the town's economy. The evaluation programme has therefore an implicit assumption that this unbalanced strategy will break this dichotomous 'vicious circle'. As concluded by Hirschman the deliberate unbalancing of the economy by following the 'privileged strategy' and by selecting the 'priority sector', could help achieving the economic growth. The unbalanced model could be expressed in terms of Fig. 1 which depicts, the relationship between the 'directly productive activity' (DPA) measured on the horizontal axis and the 'social overhead capital' (SOC) measured on the vertical axis. The curves  $I_1$ ,  $I_2$ ,  $I_3$ , and  $I_4$  are the "isopods" showing various quantities of SOC and DPA which give the same gross product at any point along the isopodos; and a higher level of curve denotes a higher productivity, i.e.,  $I_1 < I_2 < I_3 < I_4$ . The  $45^\circ$  OZ line which connects the isopod curves on their optimal points 'A', 'B', and 'C', expresses the ideal of balanced growth. Thus the sequence of expansion could optimise "induced decision making", i.e., the 'privileged

strategy' could be determined by either of the two strategies as given below.

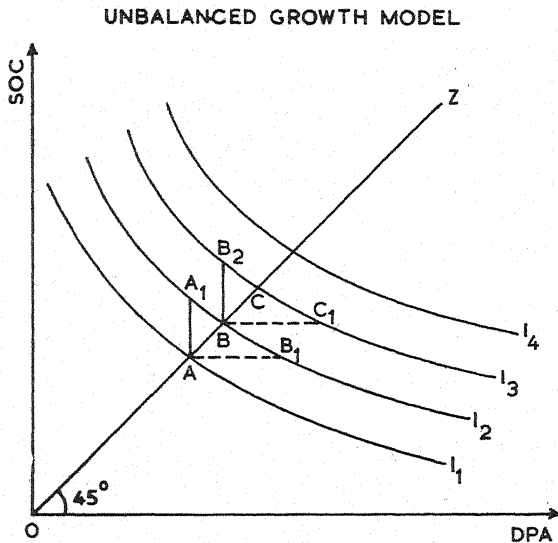


Fig. 1

#### STRATEGY I: EXPANDING THE SOC

This follows the path  $AA_1 BB_2 C$ . Increasing SOC from A to  $A_1$  induces DPA to increase until balance is restored at point B which is at a higher level of output because B lies on  $I_2$  and  $I_2 > I_1$ . Similarly, a further increase in the SOC, from B to  $B_2$ , follows DPA to balance at point C which is again a higher level of output. Thus, again a higher level of output could be achieved by similar investment in the SOC.

#### STRATEGY II: EXPANDING THE DPA

This follows the path  $AB_1 BC_1 C$ . Increasing DPA to  $B_1$ , requires SOC to increase and unit point B is achieved and further expansion of DPA to  $C_1$ , requires SOC to be expanded further to achieve higher equilibrium level of output. It is important to note here that while the strategy I 'induces' the development process, strategy II

'requires' expansion. Inevitably, the former is development via excess capacity in SOC and the latter is development via shortage of SOC. The IDSMT strategy is based on this analogy of the 'privileged strategy', which induces decision making. '

In the process of increasing SOC, an examination of inter-sectoral impacts of projects has been felt necessary. These have been estimated in terms of two kinds of linkages: (i) forward linkages (which are functionally dependent and potentially positive), and (ii) backward linkages (which are potentially negative). The former represents opportunities to optimise the net benefits of a project, for example, the labour skills created as a result of a housing project could help in the construction activity of other sector and an upgradation of services may directly ameliorate the effectiveness of the project by improving the quality of life, environmental hygiene/sanitation, etc. The latter indicates that a commitment of resources to one withholds resources from the other, for example, the shelter project may indirectly increase the effectiveness of improvements in the urban management and finance by increasing the stability and sense of responsibility of low income households, etc.

#### IMPACT ANALYSIS AND EVALUATION TECHNIQUES

Since various projects undertaken by the two towns vary in nature and scope, contents and objectives, no singular tool of analysis has been adopted. In fact, the tools of analysis vary due to the variation in projects and sites. A brief description of each methodological tool is being illustrated in the following paragraphs.

The common explanatory variable in each project has been the project cost, ranging from land acquisition to land development and finally making it usable and more activity and employment generating. While the project cost is an important factor in determining the 'sale price' and the 'profitability' or the 'benefit-cost' ratio, in commercial or residential schemes, the employ-

ment generation is an ancillary justification for intending projects to bring about adverse economic growth in the light of the procedures discussed earlier. The project cost on its broad items has been measured in terms of the smallest unit, generally per sq. metre, so that inter project comparison becomes easier.

The generation of employment has been estimated both in terms of skilled and unskilled labour from the total wage bill, ratio of the skilled and unskilled labourers and the wages for the actual duration of the project. Firstly, the wage bill per day has been determined as:

average wage bill per day (W) =  $WP/T$  where, WP is the total wage bill paid and T is the actual project time duration.

Then the common factor, the ratio of labour has been estimated as: common factor (P) =  $W/(W_1X+W_2Y)$

Where,  $W_1$  and  $W_2$  are the per day labour wages for unskilled and skilled labourers, and X and Y are the employment ratios, respectively.

Now, the employment generation both for the skilled and unskilled labourers has been estimated by multiplying P with X and Y, respectively.

In determining the 'profitability' or the 'benefit-cost ratio', the techniques of "discounted cash flow" (DCF) and the "internal rate of return" (IRR) have been used.

The principle upon which DCF evaluations are based is that the money has a time value, e.g., any sum of money, say Rs.121, received after a period of time, say 2 years, can be said to have its "present value" of lesser amount, say Rs.100 and the future sum is being 'discounted' at the minimum feasible rate of 10 per cent. The discounting process is simply compounding of the rate of interest worked backward. In general, the present value of any future receipt is calculated by multiplying it by  $1/(1+d)^t$  and the future value of any present expenditure by multiplying it by  $(1+d)^t$ , where 100 d is the percentage rate of discount and 't' is the number of

discounting years, expenditures and receipts which occurred, or would occur after the project implementation, at different times. In order to make the construction and operation of the project comparable to present expenditure and receipts, all have been revalued. The present value (PV) of the project is the sum of the above receipts.

The internal rate of return (IRR) which gives the 'yield' of the project, is the second measure of 'profitability'. In fact, this is the rate of discount which makes the PV of the project zero. For example, if an expenditure of Rs. 100 pays a dividend of Rs.5 per annum each year, it is said that its 'yield' is 5 per cent. But the IRR of this expenditure is also 5 per cent because of Rs.5 for ever discounted at 5 per cent gives a PV of Rs.100, i.e., equal to the investment or expenditure, so that the PV is zero.

The next analytical variable is the project implementation or the physical status of the project. It has been necessary to find out the various stages of the project on the date of evaluation in order to estimate the expected project time for its completion. An evaluation of the project implementation has had its importance also for a wider impact analysis. However, status of the project performance includes the material, services, quality and condition of an individual project.

For housing or commercial schemes, its land-use pattern has been evaluated in order to get information about various components and the extent of various land-uses like residential, commercial, industrial, parks and open spaces, roads including pavements and other related community and infrastructural services.

The mode of disposal of housing or commercial plots has been dichotomous either by allotment or by auction. In the case of former, the criteria of disposal of plots is the reserve price and/or subsidised price; whereas the latter is dependent on the highest auction bid. Further, the whole community has been classified into various income-groups EWS, LIG, MIG and HIG depending upon the monthly incomes of less than Rs. 250, between Rs. 250-

599, Rs. 600-1499 and Rs. 1500 and above (Table 1).

Table 1 INCOME CLASSIFICATION

Income Groups of the Community	Income Range Rs. p.m.
Economically Weaker Section (EWS)	Less than 250
Low Income Group (LIG)	250-599
Middle Income Group (MIG)	
MIG-1	600-899
MIG-2	900-1499
Higher Income Group (HIG)	1500 and above

The 'affordability' of a project is perhaps the most important factor in the project appraisal. This is particularly true in the case of housing schemes, where it becomes a key issue in determining its appropriateness to low income populations. One of the reasons for project evaluation is to ascertain whether the project has made any dent on urban poor and has been able to fulfil its development objectives. But, since such projects were still underway, their estimation and evaluation has been based on few assumptions:

#### ASSUMPTIONS

1. The 'expected' amount from the disposal of residential plots would be at the rate of 50 per cent of the reserved price for both the EWS and the LIG categories;
2. According to the policy adopted, both the EWS and the LIG would be provided duly constructed dwelling units on the hire purchase basis at the nominal rate of interest of 4 per cent per annum; and
3. The monthly instalments for the housing units would be 30 per cent and 20 per cent of the average monthly

income of both the EWS and LIG respectively.

The affordability rate has been defined as that level of housing project where the monthly instalments paid by the households are able to cover the monthly cost of housing units.

The affordability rate has been estimated in the following form:

$$C < aY$$

Where C = monthly project cost,

a = average propensity to spend on housing, and

Y = monthly income

There is one important aspect regarding C', that is the 'occupancy cost' which is represented either by rental charge or total housing cost fully amortized on monthly basis.

Although road construction is fully a public utility infrastructure, sometimes an investment in this 'privileged sector', if so selected, expands economy to grow and achieve balance through inducement without any time lag. This concept has been tested in the project appraisal of a road, where its economic feasibility has been estimated basically to know if it was a 'privileged sector'.

Before proceeding for the project appraisal a group of road beneficiaries, viz., road side localities, household populations, commercial and other office complexes, and surrounding villages in the hinterland have been estimated on the basis of rational assumptions given in the respective project schemes. Such groups of beneficiaries have formed an 'influence zone' and two kinds of effects have been measured:

- (i) **Producer's surplus (PS) effects.** It is the agricultural value added (VAD) in the influence zone which would be affected by the newly constructed road, and
- (ii) **Consumer's surplus (CS) effects.** It is savings in the vehicle operating cost(VOC) for normal traffic,



goods and passengers in the influence zone.

### MEASUREMENT OF ECONOMIC FEASIBILITY

Now on the basis of the above two effects, the economic feasibility (EF) has been measured as:

$$EF = f(PS/C, CS/C)$$

where, C is the cost of road construction.

### DISCRIMINANT ANALYSIS

Further, for the project appraisal, the discriminant analysis has been used as a tool to predict whether estimates of the economic return of the road construction, in the influence zone, is more than opportunity cost of the capital. If this becomes so, it could certainly be asserted that it is a privileged choice of development.

The discriminant analysis is a sound statistical technique and has been used to distinguish between two groups of cases, feasible and unfeasible, with respect to three explanatory variables PS, CS and the net value of agricultural productivity per hectare (NVH) in the influence zone. The feasibility has been tested for four alternative values of the cost of capital at 10, 12, 14 and 16 per cent. However, the chief objective of discriminant analysis has been to derive linear combinations of the discriminating variables, appropriately weighted, so that the maximum statistical differentiation between the two groups of investments can be obtained. The linear discriminant functions for the two groups of towns could be expressed as:

$$S_1 = a + bX + cY + dZ....(i)$$

$$S_2 = p + qX + rY + sZ....(ii)$$

Where  $S_1$  and  $S_2$  are the scores of discriminant analysis for both the feasible and infeasible groups, respectively,

$X = \text{VAD/C.}$

$Y = \text{VOC Savings/C,}$

$Z = \text{NVH}$

The intercepts 'a' and 'p' and other coefficients of X, Y and Z for the alternative values of the cost of capital at 10, 12, 14 and 16 per cents have been given in Annexure 4. The economic return of the road has been asserted, if the discriminant analysis score for the feasible group is more than the discriminant score for the infeasible group, i.e.,  $S_2 > S_1$ .

To study the various impacts of non-vegetarian market and its allied schemes in Trichur on the incomes of the shopkeepers due to improvements in the services, etc., the survey method was applied. A questionnaire named People's Schedule (Annexure 6) was framed into 6 parts covering various aspects for the impact analysis. However, parts B<sub>1</sub> and B<sub>2</sub> could not be applied fully because of certain inherent constraints which developed from the very inception of the related projects.

The shopkeepers and the buyers both were interviewed mainly from A<sub>1</sub> and A<sub>2</sub> parts, while lorry owners from A<sub>3</sub> part of the schedule by direct approach method. The shopkeepers have been the sellers of non-vegetarian commodities in its biggest market complex of Erattachira and its next second market at the East Fort. But the buyer is a visiting person into such markets whether he is a consumer of non-vegetarian commodities or not. A lorry owner is a vehicle driver who parks his vehicle at the existing parking site at the Thekinkad maidan. The universe consists of three groups, viz., shopkeepers, buyers and lorry owners. In the case of buyers, a random sample of 80 was taken. Overall, it is a purposive stratified sampling which has been used for the impact analysis through questionnaire method. The size of sample drawn is given in Table 2.

A subjective questionnaire called 'opinion schedule' was also prepared for the people engaged in the implementation of IDSMT scheme in the supervisory or administrative capacity (Annexure 5). This questionnaire has been

Table 2 SAMPLING UNIVERSE AND THE SIZE OF SAMPLE

Sl. No.	Item	Universe	Sample	Sample (Percentage)
1.	Fresh Fish	25	10	40
2.	Dry Fish	14	14	100
3.	Meat (a) goat	7	7	100
	(b) pig	2	2	100
	(c) cow	3	3	100
4.	Buyer	-	80	-
5.	Lorry owner	250	50	20

of immense help in probing the problems and constraints, impediments, resistance, priority schemes, beneficiaries of the IDSMT schemes, etc. This has also been useful in collecting information on the qualitative aspects of the socio-economic improvements, people's participation, and further continuance of the IDSMT programme, etc. A purposive sample of 25 was drawn and the direct approach method was applied, while interviewing the selected persons involved in the IDSMT programme management (Annexure 6). This subjective type of schedule required greater skills in probing because each answer needed further explorations to arrive at unbiased value-judgements. The researchers were made fully familiar with this situation and were also trained accordingly.



## PART TWO

SRI GANGANAGAR : AREA PROFILE

IDSMT : PROJECT PROFILE

IMPLEMENTATION AND EVALUATION

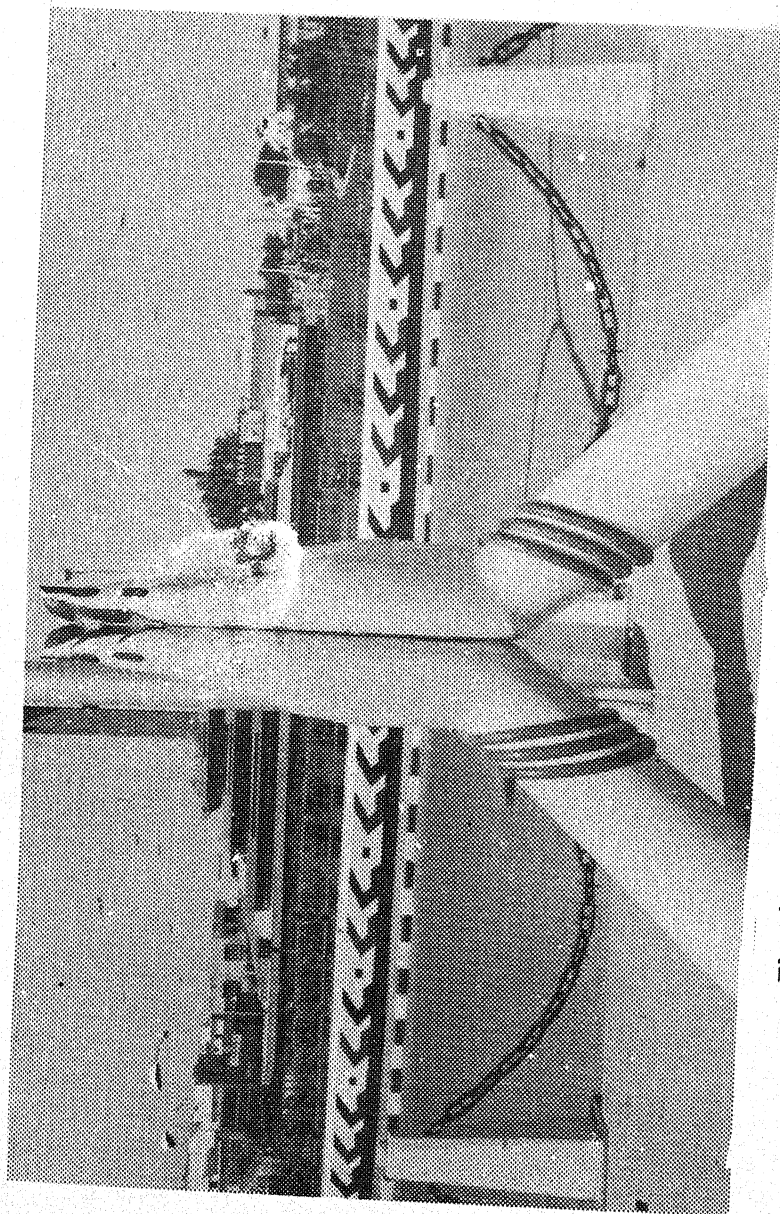


### **3 SRI GANGANAGAR : AREA PROFILE**

#### **LOCATION AND HISTORY**

Sri Ganganagar is one of the eleven selected towns of Rajasthan State under integrated development of small and medium towns programme. It is also the district head-quarter located in the extreme north west of Rajasthan between  $29^{\circ} 55'$  north latitude and  $73^{\circ} 52'$  east longitude. As there are no tanks or rivers or streams near the town, the main source of water is Gang canal which flows through the depression of the ancient bed of the river Ghaggar which is now extinct. The town is located on the Indo-Gangetic sandy plain at an elevation of 177 metres from the sea level. The climate is dry but healthy, characterised by extremes of temperature during summer which rises rapidly after March. The average annual rain fall is about 296.3 mms. The town is strategically located at a distance of about 20 km. from the Pakistan border and well connected by National Capital which joins it with broad gauge railway line via Bhatinda in Punjab. It is approximately 320 kms. from Delhi and 500 kms. from its state capital Jaipur. It is also well connected with roads and the national high way No. 15 from Pathankot to Kancla passes through Sri Ganganagar.

Historically speaking as the name reveals, the town is named after Maharaja Ganga Singh (1887-1943), the ruler of the former Bikaner State. After the formation of Rajasthan State in March 1948, Hanumangarh district was merged in Ganganagar District and the combined territory was placed under one administrative control of the District Collector and in 1949 a separate district was formed and Sri Ganganagar town became the district head-quarter. Before the advent of the Gang canal into the



**Fig. 1** Welcome to the Historic Town of Sri Ganganagar



thirsty and arid land, Sri Ganganagar town was a small village called Ramnagar in Mirzawala tehsil of the erst-while Bikaner State of former Rajputana. After the construction of Gang canal in 1927 which was the ceaseless effort of that time and one of the monumental work of Maharaja Ganga Singh, a new Mandi was established here and named after Maharaja Ganga Singh. The town has, since then, developed rapidly owing to the increasing irrigational facilities and the resultant growth of trade and industry in the area. Gradually, a large number of people also migrated to this area from southern part of Punjab and settled down at Sri Ganganagar and the village was turned into a town.

#### AREA AND POPULATION

The town of Sri Ganganagar has grown rapidly during the past four decades. In the early thirties, the colonisation of the canal area and also due to opening of mandi, the agriculture in the region started setting slightly a better place. The town being a district headquarter, the location of administrative offices also gave the area more importance and gradually the village which had a population of 1741 in 1921 emerged as a class IV town with a population of 9,943 in the year 1931. Within a span of 50 years, it further grew to 1,23,692 in 1981 covering an area of 6.09 sq.kms. There are various factors responsible for this increasing trend. After the partition of the country, the town witnessed a very high rate of population growth due to large scale influx of refugees from Pakistan (about 126 per cent) during the decade 1941-51.

Besides, the growth of industry, trade and commerce activities and also the opening of various new offices and educational institutions gave an impetus to the growth of the town. Although the town was developed in a planned way by its founder Maharaja Ganga Singh, it has witnessed a phenomenal growth in the later years. During the past decade (1971-81), the rate of population growth has been about 3.73 per cent per annum. Table 1 gives

the growth and variation of population since 1931.

Table 1 VARIATION OF POPULATION IN SRI GANGANAGAR TOWN

Year	Population	Per cent -age Variation	Percentage to the urban popu- lation of the district	Percentage to urban popula- tion of the state
1931	9943	-	36.88	0.58
1941	16136	+ 62.29	33.53	0.75
1951	36437	+125.81	40.08	1.23
1961	63854	+ 75.24	42.58	1.95
1971	90042	+ 41.01	39.19	1.98
1981	123692	+ 37.37	29.57	1.72

**Source:** Compiled from the **Census of India Rajasthan**, Part II-A 1971 and **Census of India 1981**, Final Population Totals, Paper-I of 1982, Series-I, India.

#### FAMILY SIZE, SEX RATIO AND LITERACY

According to 1981 census, there are about 21,747 households consisting of 69,207 males and 54,485 females, with an average family size of 5.7 persons per household equally true both for rural and urban areas of the district. The sex-ratio is adverse being 787 females per 1000 males. As far as literacy is concerned, it has increased from 48.85 per cent in 1971 to 55.89 per cent in 1981 showing an increase of about 7 per cent during the decade. Table 2 gives the composition of sex and level of literacy in the town.

The population projections made by the State Town Planning Organisation for the year 2001 indicate that the township of Sri Ganganagar would acquire a population of 1,64,442 in 1991 and 2,05,000 in 2001. These projections are based on the assumption of a decline in birth rate,

Table 2 SEX COMPOSITION AND LITERACY RATE

Year	Male	Female	Females per 1000 males	Literate Persons Percentage		
				Male	Female	Total
1971	50405	39637	786	58.33	36.80	48.85
1981	69207	54485	787	64.14	45.42	55.89

as a result of family planning programme. Sri Ganganagar town is one of the major urban settlements of the district. As per 1981 census records, there are 12 towns in the district but considering the municipal status, the number of such towns goes to 16 in the whole district covering a population of 418,299. Sri Ganganagar town in urban population was 39.19 per cent, as of 1971 census but its share has gone down to 29.57 per cent during 1981 census. This indicates that besides Sri Ganganagar, other towns were also growing fast. Nevertheless, Sri Ganganagar being a district headquarter, the maximum urban population of the district is concentrated only in Sri Ganganagar town and its share in the state's urban population is about 1.72 per cent, as of 1981 census. There has been a gradual but constant increase in the status of the town from class V to class II in the successive census decade from 1931 to 1961. In 1971, the town retained its class II status but in 1981, it has attained class I status.

#### OCCUPATIONAL STRUCTURE AND ECONOMIC BASE

The town has a well established network of various economic avenues such as public administration, industry, trade and commercial activities. Being a district headquarter, the volume and complexities of administration

have also increased. There are 90 government offices of both central and state employing about 12,550 persons or about one-third of the town's total workers. This reveals that the role of other services in the tertiary sector is one of the important economic activities of the town. The town is dominated by the tertiary sector and its share is about 62 per cent in the total employment; whereas, the share of secondary and primary activities is about 32 and 7 per cent, respectively (Table 3).

Table 3 OCCUPATIONAL STRUCTURE OF SRI GANGANAGAR  
DURING 1971-81

Occupation	1971			1981		
	Worker	Per- cent- age to total work- ers	Per- cent- age to total popu- lation	Work- ers	Per- cent- age to total work- ers	Per- cent- age to total popu- lation
Primary	1,841	7.25	2.04	2,610	7.25	2.11
Secondary	7,937	31.26	8.82	11,246	31.23	9.09
Tertiary	15,616	61.49	17.34	22,159	61.52	17.91
TOTAL WORKERS	25,394	100.00	28.20	36,015	100.00	29.11
TOTAL POPULATION	90,042			1,23,692		

Source: (i) Census of Rajasthan (1971) DCH. Sri Ganganagar.

(ii) Office of the Director of Census, Jaipur, Rajasthan, 1981.

The rapid industrialisation of the town and the growth of irrigation facilities in the hinterland have dynamised the economic base of the town. although the industrial activities began in the town since the advent of Gang Canal, the sufficient supply of electricity gave a boost to the industrial activities and a number of industrial concerns are operating in the town. Among the leading ones are Ganganagar Sugar Mills, Sadual Textile Mills and Cotton Ginning and pressing factories.

Insofar as the registered sector employment is concerned, Table 4 indicates that there has been a substantial increase both in establishments as well as in employment. The percentage share of industrial employment increased by 51.50 per cent during 1975-81. The proportion of registered industrial employment to the total workers has been recorded as 9.53 per cent during the corresponding period. Basically there are more establishments of engineering and agro-based major industries including small and medium size units. However, the share of informal sector employment has increased from 1023 in 1971 to 1803 in 1981 or by about 77 per cent, but its proportion to total workers has increased only by 4.03 per cent during 1971-81.

#### INFRASTRUCTURAL DEVELOPMENT AND PROBLEM AREAS

Due to the strategic location of the town of Sri Ganganagar amidst the fertile agricultural hinterland, its development needs have been expanding fast and are witnessing many development problems. To keep pace with the growing needs of the town and its estimated population of about 2.05 lakh in 2001, there is a need of providing infrastructure and improving its living environment. At present nearly 60 per cent developed area of the town is occupied by residential uses and town is bound to spread over in the nearby aricultural land. The residential density in some of the census wards is as high as 400 persons per acre. Under such density patterns, the environmental services are likely to get deteriorated. This demands, more provision of infra-

Table 4 INDUSTRIAL UNITS AND THEIR EMPLOYMENT IN SRI GANGANAGAR TOWN

S.No.	Industry	No. of Units			Employment		
		1975	1978	1981	1975	1978	1981
1.	Agrobased	22	41	69	225	387	614
2.	Animal Husbandry	1	5	37	4	19	50
3.	Textiles	18	17	18	753	682	617
4.	Forestry	14	15	22	117	113	140
5.	Chemicals	18	28	38	73	155	224
6.	Engineering	60	103	132	989	1084	1139
7.	Building Materials	2	14	15	47	547	498
8.	Others	4	12	36	38	100	151
TOTAL		139	235	269	2266	3089	3433

**Source:** Compiled from the Office of the Deputy Director Industries, Sri Ganganagar.

structural facilities keeping in view the future requirements of the town. The augmentation of services and facilities are being done by widening and construction of new roads, augmentation of water and power supply, medical and educational services.

### Power

At the time of start of this evaluation study, the town had sufficient power supply from Rajasthan Electricity Board (with a capacity of 132 kv) which receives the supply from Bhakhra Nangal Hydro-electric Power Station.

The average daily consumption of power under various uses is being given in Table 5. The town is fully covered by electricity supply and some of the older areas

of the town have also been provided with modern fittings (Fig. 2).

Table 5 POWER CONSUMPTION IN THE TOWN, AS OF 1983

Consumption	Units per day	Unit consumption per household per month
Domestic	14.352	20 (units)
Industrial	43,612	-
Street lighting	3,190	-
Water works	3,768	-

Source: Compiled from Electricity Board, Sri Ganganagar.

### Water Supply

There are no tanks or rivers as discussed earlier. The main source of water is the Gang canal and the town gets water supply after treatment. The consumption of filtered water supplied from the head works is about 91 lakh litres per day and the average per capita domestic consumption is about 62 litres a day. Table 6 shows the categorywise consumption of water.

Table 6 DISTRIBUTION OF WATER CONSUMPTION,  
AS ON JANUARY 1984

Sl.No.	Category	Per day consumption in lakh litres	Per capita daily consumption of filtered water (in litres)
1.	Domestic	85.46	62
2.	Commercial	3.17	-
3.	Industrial	2.17	-
TOTAL SUPPLY		90.80	

Source: Assistant Engineer, Water Works, Sri Ganganagar.

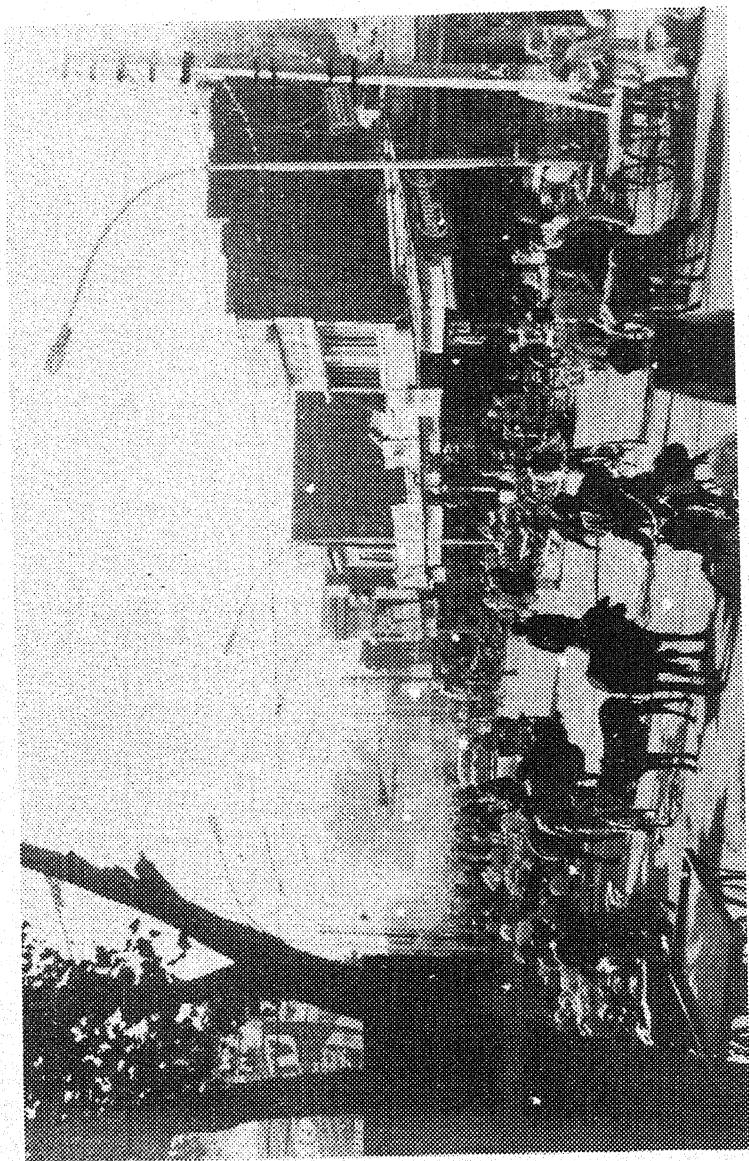


Fig. 2 Exhibits Electrification of Gol Bazar



Although the town gets a regular supply of filtered water from the Gang canal, the shortage of water during the summer days increases and even the per capita domestic consumption falls short of its requirement.

### **Water-Logging**

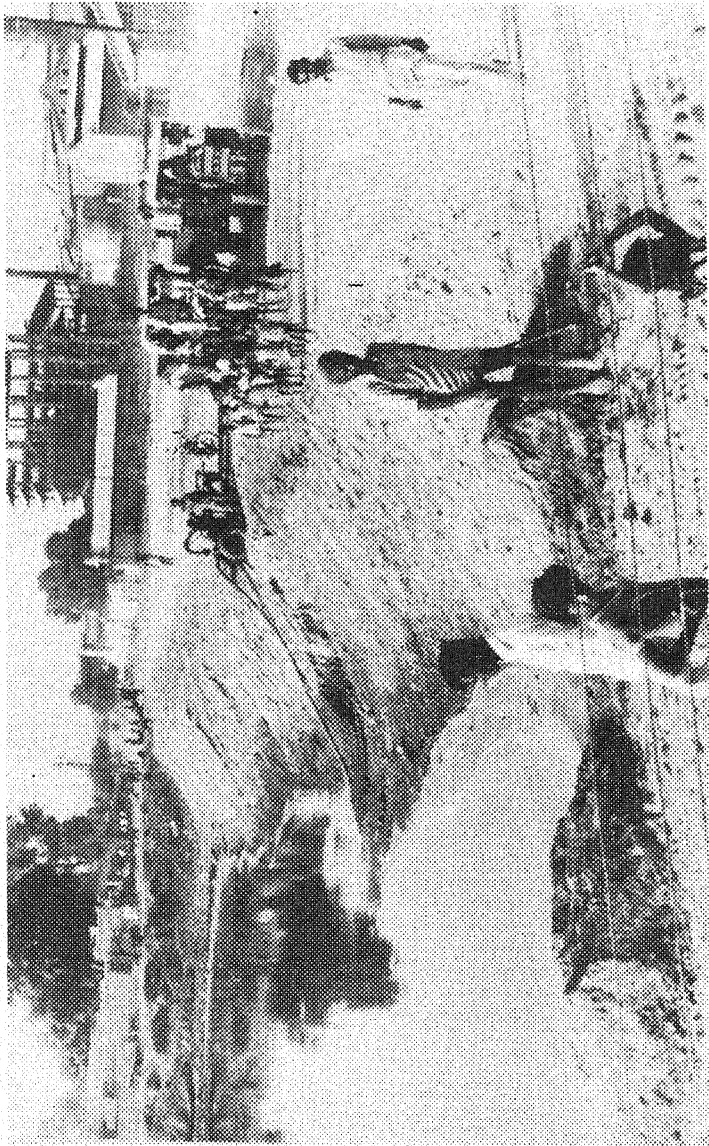
There is no sewerage system in the town and a detailed scheme is under consideration and likely to be finalised soon. The town does not have a regular drainage system and there is a big problem of water logging in the town as a number of 'Khadas' require filling and levelling (Fig. 3). Such development work is already going on in the town. Figs. 4 and 5 exhibit the glaring water logging problem of the town. In Fig. 4, the water is being drained out from the residential locality and the Khadda is being filled up in order to bring the land on a level. In Fig. 6 only road side drains have been constructed and the pipelines have been laid down to facilitate road side drainage. However, with the efforts of Urban Improvement Trust and Municipal Council, the waste water is stored at a place and from there, it is pumped into the nearby agricultural fields. In order to keep proper sanitation and environmental health of the town in view of the increasing population (in future), it is necessary to provide sewerage and a proper drainage system. Because the existing system of storing water at a place is most polluting factor. It not only breeds mosquitoes but also generates unbearable foul smell of stagnant water polluting the atmosphere. The public conveniences are hardly seen in the town, only a few urinals near the office complex have been provided.

### **Education**

With an increase in the literacy rate in the town by about 7 per cent during 1971-81, there seems to have been a substantial improvement in the field of education. At present, there are 62 Nursery and Primary schools, 14 Middle schools and 10 Secondary schools in the town, while 8 Degree Colleges are also functioning in the town. The educational facilities are being looked after by the



**Fig. 3** Showing Land Filling Activity in the Project Area



**Fig. 4** Draining of Water from a Pond within the Residential Locality and its Filling and Levelling



**Fig. 6** Exhibits Laying down of Pipelines to Facilitate Roadside Drainage

Education Department of the State Government.

### **Medical Facilities**

The medical facilities in the town are not so good and require more attention in future. In addition to 6 dispensaries, there is only one Allopathic General Hospital with 300 beds to serve the present population of more than 1.23 lakhs. During 1982-83, medical facilities were provided to 32,713 indoor and 4,60,302 outdoor patients.

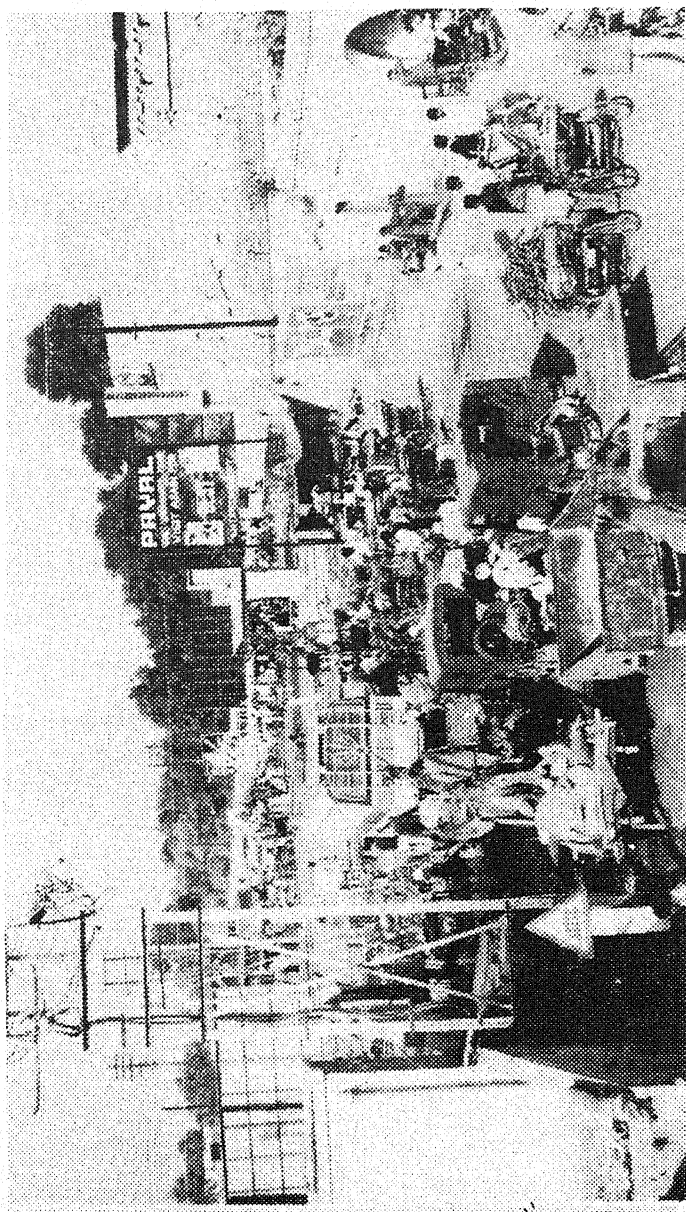
### Communication

The post and telegraph facilities are available in good number with one head and 7 sub-post offices in the town. The telephone facility was introduced with 2250 telephone connections in 1981. An electronic telephone exchange of its kind, to be second in India, would be started by the end of 1984.

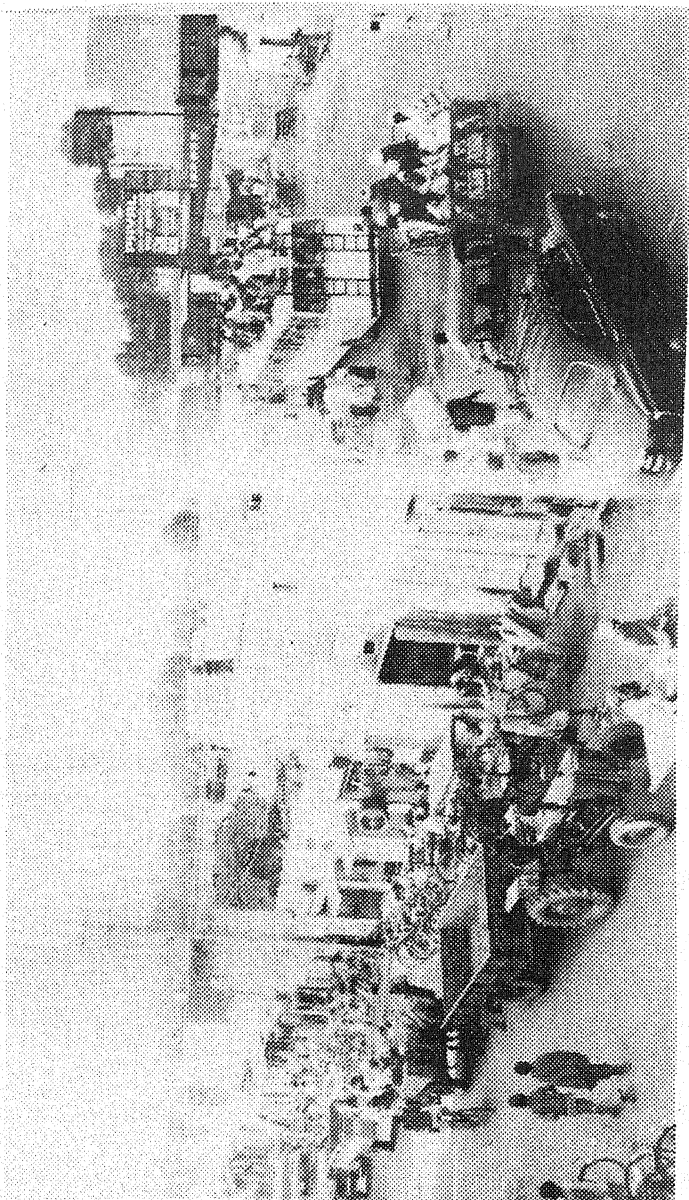
### Transport Network

The town is well connected by the transport network. During the day about 7 inter-state and 250 intra-state buses touch the town. But the existing bus stand is not proper and it is located on a low lying area having inadequate space. There is also lack of regular truck stand or transport terminal, and as such, their parking terminals are scattered in different parts of the city. Although the town was developed on a grid iron pattern of road system with main roads having a width of 120 feet, the encroachments have reduced the road-width at various places. The encroachment on footpath is a common phenomenon. The mode of intra-urban transport is predominantly rickshaw (numbering 984, as of January 1984) but there is a move to discourage this mode of transport. And as such, the issue of further licences has been stopped to reduce further congestion in the town.

Besides, the town has also access to railways since very beginning and at present about nine metre gauge and five broad gauge trains pass through the town. But the problem of rail-roadization is that it crosses the national highway No.15 near Azad talkies and creates traffic bottleneck at gate No.C119. There is a heavy volume of traffic (BG and MG) both incoming and outgoing. In the absence of an over bridge (flyover) the gate No.C119 is closed against road traffic for reception and despatch of metre gauge trains for about 15 times within 24 hours and about 10 times for BG trains transactions including marshalling, engine turning, etc. At times, it is closed for about five times for goods operation and shunting of goods trains. It is closed for about 30 times during a span of 24 hours. Figs. 7 and 8 exhibit the



**Fig. 7** Shows a View of the Traffic Bottleneck on Railway Track Gate No. C-119 on National Highway No. 15. It is one of the biggest problem of the town



**Fig. 8** Exhibits the Total View of the Traffic Bottleneck on Railway Track Gate No. C-119 on National Highway No.15



partial and total view of the traffic bottleneck caused on Railway track gate No. C-119 crossing national highway No.15. The movement of vehicular traffic is slow because of this traffic bottleneck. There is an urgent need of constructing an over-bridge to smoothen the traffic flow.

### DEVELOPMENT AUTHORITIES

For performing a variety of civic and development functions in the town, the role of Municipal institution and other development agencies is of paramount importance. Sri Ganganagar town is equipped with two such bodies, viz., (i) Municipal Council, and (ii) Urban Improvement Trust. The latter came into being on May 12, 1981.

#### **Municipal Council**

The municipal government came into existence for the first time when the municipal board was established in 1930 under the Bikaner Municipal Act of 1923 vide Notification No.17 of September 9, 1930 issued by the erstwhile State of Bikaner. Since the town has grown quite rapidly with a population of 9943 in 1931 to 63854 in 1961, the Municipal Board was upgraded and given the status of municipal council in November 1962. Till the constitution of Urban Improvement Trust (UIT) in 1981, the municipal council acting under the provisions of Rajasthan Municipal Act, was looking after the various civic and development functions of the town. At present, the development functions of the town are being performed by the UIT, and the council attends to the work pertaining to sanitation, public health, water supply and public works. However, the UIT and the council both maintain the lighting arrangement in the town by obtaining electricity from Rajasthan Electricity Board.

A statement of the income and expenditure of the municipality during the last ten years, i.e., 1972-82 is given in Table 7.



Table 7 INCOME AND EXPENDITURE

S.No.	Year	Income	Expenditure
1.	1972-73	57.25	60.29
2.	1973-74	57.78	57.47
3.	1974-75	43.70	38.87
4.	1975-76	60.42	53.16
5.	1976-77	83.07	62.14
6.	1977-78	83.09	95.08
7.	1978-79	105.34	102.54
8.	1979-80	146.86	118.85
9.	1980-81	118.96	131.64
10.	1981-82	124.91	122.66
Percentage Increase during 1972-82		118.18	103.45

As seen from Table 7 both income and expenditure have increased significantly since 1972-73. The income has increased from Rs.57.25 lakh in 1972-73 to Rs.124.91 in 1981-82 showing an increase of 118.18 per cent during the last ten years and expenditure from Rs.60.29 lakh to Rs.122.16 during the corresponding period showing an increase of 103.45 per cent. The municipality derives its income particularly from recurring sources which included taxes on various items, such as land and buildings, water, octroi, carts and vehicle, market taxes and tehbazari, etc., with a share of more than 50 per cent in the total income. The revenue received from the sale of land is also one of the important components of income which contributed between 21 to 40 per cent of income to the municipality during the last five years. Table 8 gives the percentage distribution of income received during 1977-82.

Table 8 PERCENTAGE DISTRIBUTION OF INCOME OF  
MUNICIPAL COUNCIL, SRI GANGANAGAR,  
1977-78 TO 1981-82

S.No.	Major Heads of income	1977-78	78-79	79-80	80-81	81-82
1.	Recurring	87.43	74.67	54.11	59.82	68.17
2.	Sale of Land	5.59	21.01	40.21	23.82	27.60
3.	Non Recurring	6.98	4.32	5.68	16.36	4.23
TOTAL		100.00	100.00	100.00	100.00	100.00

After the establishment of UIT, the income received as loan from government and the income from the sale of land has been mainly shared by the UIT which has taken up major development activities of the town from the control of municipality. The municipal council at present has to look after the water supply, lighting, public utilities, etc., in the town. Table 9 gives the expenditure pattern of the municipal council during 1977-82.

It is observed from Table 9 that the share of development expenditure has declined from 29.54 per cent to 12.88 per cent within a period of five years. This may be due to the fact that the major new development projects in the town are being performed by the UIT. Even the expenditure on public conveniences is also negligible. However, the percentage share of recurring expenditure on general administration, public health, etc., has been increasing consistently.

#### Urban Improvement Trust

Besides the municipal council, the various development work of the town is being undertaken by the Urban Improvement Trust. Many development functions of municipal council have been transferred to the UIT along with

Table 9 EXPENDITURE PATTERN OF MUNICIPAL COUNCIL  
SRI GANGANAGAR DURING 1977-78 TO 1981-82

S. No.	Heads of Expenditure	1977-78	1978-79	1979-80	1980-81	1981-82
1.	Recurring	60.21 (63.33)	64.38 (62.78)	65.43 (55.05)	76.85 (58.39)	90.88 (74.09)
2.	Land Acquisition	0.27 (0.28)	0.04 (0.04)	1.57 (1.32)	2.28 (1.73)	0.47 (0.38)
3.	Drainage	7.18 (7.55)	6.10 (5.95)	3.03 (2.55)	1.24 (0.94)	3.64 (2.97)
4.	Road	16.77 (17.64)	8.85 (8.63)	5.07 (4.26)	5.22 (3.96)	6.43 (5.24)
5.	Motor Stand/ Rikshaw Stand	0.22 (0.23)	2.75 (2.68)	-	-	-
6.	Pipelines	0.41 (0.43)	0.11 (0.11)	-	0.19 (0.14)	1.13 (0.92)
7.	Public Conveniences	0.09 (0.10)	3.58 (3.49)	0.18 (0.15)	0.02 (0.02)	0.01 (0.10)
8.	Gardening and Parks	2.51 (2.64)	0.70 (0.68)	0.43 (0.36)	0.38 (0.29)	1.30 (1.06)
9.	Water and Other Related Works	0.64 (0.67)	8.57 (8.36)	3.05 (2.57)	11.04 (8.39)	2.82 (2.30)
	Total Development Expenditure (2 to 9)	28.09 (29.54)	30.70 (29.94)	13.33 (11.21)	20.37 (15.47)	15.80 (12.88)
10.	Purchase of new Properties	1.95 (2.05)	1.13 (1.10)	0.85 (0.72)	2.45 (1.86)	1.66 (1.35)
11.	Miscellaneous including payment of loan	4.83 (5.08)	6.33 (6.17)	39.24 (33.02)	31.96 (24.28)	14.32 (11.68)
	TOTAL EXPEND- ITURE	95.08 (100.00)	102.54 (100.00)	118.85 (100.00)	131.63 (100.00)	122.66 (100.00)

**Note:** Figures within brackets are the percentage distribution of expenditure incurred on various heads.

the funds. Although the Urban Improvement Trust of Sri Ganganagar was constituted in the year 1974, due to some administrative reasons, the Trust was merged with the municipal council in the year 1978. Later on, the necessity of an urban improvement trust was felt and again it was reconstituted in May 1981 (vide notification No.F.11 (3) U.D.H./78, dated 12.5.81) by the Department of Urban Development and Housing, Jaipur. To run the function of improvement trust, an elected body has been formed. It is headed by the chairman and other trustees which also includes official members from various departments of the state government of Rajasthan and the municipal council of Sri Ganganagar. At present, there are 17 members of the Trust beside the chairman. To look after the various developmental activities and for the smooth functioning of the work, the trust has constituted a number of committees consisting of members from the trust as well other knowledgeable persons in the field of their interest for the urban development of the town. The details of such committees are given below:

Name of the Committee	Total No. of Members
1. Negotiation Committee	11
2. Allotment Committee	13
3. Cement Distribution Committee	11
4. Technical Committee	13
5. Advisory Committee for Allotment groups with 5 members each	3
6. Committee for Publicity and beautification	12
7. Legal Advisory Committee	7
8. Store Purchase Committee	9
9. Shyam Batika Development Committee	4

The above committees are supported with the administrative, technical and legal staff of the Urban Improvement Trust. The Secretary of the trust is an officer of the Civil Services of Rajasthan Government and he is

responsible to carry out all the administrative work under the guidance of the chairman. The Technical wing is looked after by the Executive Engineer supported by well qualified staff.

### **Aims and Objectives of UIT**

To carry out development work of the town, the UIT has taken the responsibility of implementing all the integrated development programmes financed by central and state governments. The main objective of the trust is the development and disposal of land for residential and commercial uses. In order to provide development infrastructure in the town, such as, construction of roads, augmentation of water supply and improvement of slums, the UIT has undertaken many such projects including plantation to improve the environmental condition of the town. Under the Prime Minister's new 20-point programme, the Trust has also undertaken housing schemes for the weaker sections and nearly 320 plots in Shyam Nagar and Ashok Nagar were allotted up to 1982. The Trust has also requested the Public Health Department, Jaipur to transfer the water works from municipal council to the UIT for proper improvement in water supply of the town in near future.

The financial position of the Urban Development Trust is quite sound. The main source of income of the Trust is from the sale of land. After land acquisition and its development, the land is sold for various planned uses such as residential, commercial and institutional.

### **Income and Expenditure**

The total income of the Trust during the nine - month period from June 1981 to March 1982 after its constitution, was about Rs.138.60 lakh. In addition to this, a sum of Rs. 30 lakh was received from the municipal council. The details of its sources of income are given in Table 10.

It is revealed from Table 10 that the Improvement Trust has received a maximum income from the sale proceeds of plots amounting to Rs. 200 lakh during the

Table 10 INCOME OF UIT SRI GANGANAGAR  
DURING 1981-82 TO 1982-83

(Rs. in lakhs)			
S. No.	Income Heads	1981-82 for nine months	1982-83 1983-84 revised estimate
1.	Receipt from Municipal Council	30.00	-
2.	Sale of land	90.00	200.00 319.27
3.	Loan and grants	15.00	60.00 10.00
4.	Interest and Drawing fees	0.24	4.20 2.25
5.	Toll Tax	0.25	1.00 3.00
6.	Miscellaneous	0.11	10.0 3.50
7.	Receipts from Fixed Deposit	3.00	10.00 -
8.	Development Fees	-	- 5.00
9.	Loan from HUDCO	-	- 78.01
10.	Income received from Transfer of plots in Jawahar Nagar	-	- 1.00
11.	Receipts from HUDCO Schemes	-	- 18.50
TOTAL		138.60	276.20 439.53

financial year 1982-83. It is also proposed that the persons who have been allotted plots would be given loan in future for the construction of houses. The Table also indicates that a sum of Rs.78 lakh out of Rs.126 lakh sanctioned loan has been received from HUDCO for the construction of houses. Under this scheme, the trust has already started the construction of houses.

The major expenditure during the year 1981-82 has

been made on account of development expenditure. It has increased from Rs.122.54 lakh in 1981-82 to Rs. 246.70 lakh in 1982-83. Table 11 indicates the pattern of development expenditure of UIT Sri Ganganagar during 1981-82 to 1982-83.

Table 11 EXPENDITURE PATTERN OF UIT SRI GANGANAGAR  
DURING 1981-82 TO 1982-83

		(Rs. in lakhs)	
S.No.	Expenditure Heads	1981-82	1982-83
1.	Recurring	5.26	8.35
2.	Land Acquisition	26.00	20.00
3.	Drainage	3.28	22.15
4.	Construction of Road	45.50	49.15
5.	Extension of Electricity	5.50	11.00
6.	Pipeline	14.50	23.70
7.	Public Conveniences	0.20	0.50
8.	Plantation	2.00	2.50
9.	Others	25.66	117.70
10.	Total Development Expenditure (2-9)	122.54	246.70
TOTAL EXPENDITURE		127.80	255.05
TOTAL INCOME		138.60	276.20

The pattern of expenditure reveals a substantial expenditure on development heads particularly land acquisition, construction of roadside drainage, distribution and laying down of pipelines, extension of electrification with latest modern fittings, etc.

#### Other Agencies

In addition to the Municipal Council and UIT, there are other state level agencies which have also a major role to play in the provision of certain infrastructure

to the town. For the development of industries the Rajasthan Industrial and Mineral Development Corporation has developed an industrial estate with fifty sheds within the municipal area on Abohar Road to house the small manufacturing units.

To look after the housing requirements of the town, the Rajasthan Housing Board has constructed about 909 dwelling units consisting of 314 MIG, 198 LIG and 407 for the economically weaker sections of the people. These houses have been constructed at a point near Jawahar Nagar where Link Road joins Mira Marg. These houses have already been allotted and have all kinds of facilities like convenient shops, parks and playgrounds, nursery schools, etc. The board has also an optimistic plan in future to construct about 200 houses per annum in an area of 100 acres of land.

The town has also agricultural and other trade links with nearly 250 villages and many other towns within the district and even outside. Since Sri Ganganagar is a major distribution centre of agricultural products, therefore the role of any such agency which provides trading facilities in agricultural products has a significant value. The Krishi Upaj Mandi Samiti had undertaken the work of constructing an altogether new class 'A' grain mandi with a total cost of Rs. 2.5 crore within an area of 40 hectares of land. The work has since been completed and the Samiti has constructed 96 wholesale shops measuring 25 x 96 sq.ft. and 84 shops measuring 25x160 sq.ft., respectively. Besides, there are 60 food-grains and 24 vegetable shops of the size of 10x20 sq.ft. and 25x55 sq.ft. The existing wholesale market has to be shifted to this new site market but no action is being taken since, the shops have not yet been allotted although they were constructed and completed a year back. The Samiti has also proposal to construct a timber market in near future. The Mandi site has also all kinds of facilities and provision for cattle etc. The Mandi Board expects a revenue of 1 per cent from the sale proceeds after the Mandi starts operating. These shops are likely to be auctioned and allotted soon.



## 4 IDSMT PROJECT PROFILE

Integrated Development Programme for Sri Ganganagar city has been prepared within the framework of various assumptions and policies embodied in the Master Plan of the town which was in its final stage of preparation. This programme provides for overall development of the town in an integrated manner. Partly, it aims at fulfilment of a long term programme. The schemes taken under this programme have been selected, keeping in view, the integrated development of the town.

### SCHEMES FOR INTEGRATED DEVELOPMENT

Following the programme content, three comprehensive schemes have been included for seeking central assistance under the Integrated Development Programme. These are: (i) Jawahar Nagar Phase II, (2) Bus Stand Shopping Scheme, and (3) Link Road. Land area used under each scheme is as follows:

Jawahar Nagar Phase II	53.50 Hectares
Bus Stand Shopping Scheme	0.30 Hectares
Link Road	0.40 Hectares

#### Jawahar Nagar Phase II

This is a residential scheme with a total area of

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Adapted from the Report of Sri Ganganagar Integrated Development Programme 1979-83 prepared by the Town Planning Organisation, Government of Rajasthan

53.50 hectares. The project area is adjoining to Jawahar Nagar, Phase I and Hanumangarh Road. The scheme has provision for about 1463 residential plots<sup>1</sup> and a community centre comprising of a cinema site, offices and about 800 shops of various sizes. The land is flat and most of the land has been acquired. The total cost of this scheme is Rs.88.44 lakhs and is an approved scheme of the municipal council. The scheme area lies contiguous to present urban development.

### **Bus Stand Shopping Scheme**

The scheme has been conceived in the existing bus stand ground near Nehru Park. The Municipal Council has an approved scheme for 60 shops of various sizes. The total area of the scheme is 0.30 hectares. Due to the adjoining Automobile workshop across the 'A' minor canal, the high density residential development in the neighbourhood and the passengers of adjoining existing bus stand, this scheme for general retail shops and sitting shops is considered to be a very viable and paying scheme. The estimated cost of the scheme is about Rs.4.70 lakh which includes the land levelling of the bus stand area and the shopping scheme upto the road level as the area is low lying.

### **Link Road Development**

The Draft Master Plan envisaged a 150-foot wide link road connecting Jawahar Nagar Scheme Phase II with the rest of the town and also to the town's main arterial, i.e., Suratgarh Road near the so called stadium ground. For the development of this road, land has to be acquired from the Gaushala and some adjoining private Kathedari holdings. The development and viability of the Jawahar Nagar Phase II community centre would also depend on the final development of this link road. The total estimated cost of this scheme including land acquisition would be about Rs. 6.7 lakh including acquisition cost.

All these schemes fall either within the developed area of the town or they are contiguous to the present urban development and expected to meet the immediate

requirements of the town. As already stated, the facilities like water supply, sewerage, electricity and others would not pose any problem for these schemes, because they are contiguous to the present developed area and these facilities exist in the periphery of these schemes. The internal distribution of such facilities has also been provided while working out the development cost of these schemes. The schemes are in an advanced stage, the layout plan has been prepared and the land has either been acquired or only compensation remains to be paid for acquisition. About 55 per cent of the total plots carved out in these schemes are meant for EWS and Lower Income Group people, to be allotted to them at subsidised rates.

#### COST OF DEVELOPMENT OF SCHEMES

The development cost of these schemes has been worked out at current prices, providing for land acquisition and other development works like levelling, laying down of pipelines for water supply, sewerage, drainage, roads and other community facilities. Besides the above costs, the overhead charges like administration, supervision, auditing and interest on loans have also been included in the overall cost estimates. The detailed cost estimates of these schemes have been shown in Tables 1 to 3.

#### DISPOSAL OF PLOTS

Based on the cost estimates of schemes, the reserve price for disposal of residential plots has been taken as Rs.48 per sq.mt. at current prices and Rs.96 per sq. mt. for commercial plots. The disposal of residential plots in the scheme shall be governed by the urban land disposal rules of the state government which provides for allotment of plots to the economically weaker section and low income group people at concessional rates. While for persons with incomes upto Rs.250 p.m., the plots shall be allotted at half of the reserve price, for low income group people, i.e., 250-600 p.m. income, the plots shall be allotted at 3/4th of the reserve price. For the

Table 1 COST OF DEVELOPMENT OF JAWAHAR NAGAR  
PHASE II SCHEME

S.No.	Item	Amount (Rupees in lakhs)
1.	Land Acquisition	6.00
2.	Levelling, dressing and demarcation	0.50
3.	Roads, footpaths pavements	24.00
4.	Water supply	15.00
5.	Sewerage	10.00
6.	Drainage	3.00
7.	Street lighting	8.00
8.	Horticulture	4.00
9.	Supervision/administration & audit charge @ 20%	14.10
10.	Interest @ 6% of item 2 to 8	3.84
TOTAL		88.44

Table 2 COST OF DEVELOPMENT OF BUS STAND  
SHOPPING CENTRE

S.No.	Item	Amount in Rs.
1.	Levelling, dressing and servicing, etc.	1,50,000.00
2.	Cost of roads, etc.	1,50,000.00
3.	Water supply	1,00,000.00
4.	Sewerage & Drainage	50,000.00
5.	Street lighting & Horticulture	20,000.00
TOTAL		4,70,000.00

Table 3 COST OF DEVELOPMENT OF LINK ROAD

S.No.	Heads	Amount (in Rs.)
1.	Land acquisition	1,00,000.00
2.	Levelling, dressing and Surveying	50,000.00
3.	Cost of construction of road;	
	(a) WBM Road @ Rs. 40 per sq.mt.	4,80,000.00
	(b) Carpeting the WBM surface at Rs. 14 per sq. mt.	1,68,000.00
	<b>TOTAL</b>	<b>7,98,000.00</b>

middle income group, plots shall be allotted at reserved prices as shown in Table 4.

Table 4 MODE OF DISPOSAL OF RESIDENTIAL PLOTS

Income Group	Plot Sizes	Rate of allotment as per centage of reserved price
Below Rs. 250	100	50% of R.P.
250-600	150	75% of R.P.
600-900	200	at R.P.
900-1500	300	at R.P.
Above 1500	above 300	auction

**Note:** R.P. = Reserve Price

The remaining plots in the residential scheme shall also be auctioned at the rate of Rs. 80 per sq. mt. However, all the commercial plots shall be auctioned at the rate of Rs.200 per sq. mt. to fetch higher returns. The above disposal policy shall make the scheme financially viable.



Table 6 ECONOMICS OF BUS STAND SHOPPING CENTRE  
SCHEME GANGANAGAR

Size of Plots	No. of Plots	Rate Rs. per shop	Total in Rs.
10' x 10'	42	15,000	6,30,000
10' x 15'	18	20,000	3,60,000
TOTAL	60		9,90,000

#### OTHER DEVELOPMENT WORKS

Besides development of residential and commercial schemes undertaken by urban improvement trust under the Integrated Development Programme, various other development works like development of transportation network, mandi yards, industrial areas and related urban infra-structural facilities in the city are being undertaken by government and semi-government agencies.

The main development projects can be grouped as under:

1. Traffic and Transportation
2. Development of Mandi
3. Development of Industrial Areas
4. Slum Improvement Programme
5. Water Supply
6. Sewerage and Drainage
7. Community Development

Due to its strategic location near the Pakistan border and also as transport node, Sri Ganganagar town needs special attention for the development of proposed network under the Master Plan for providing a Bye Pass Road to segregate the traffic and provide direct linkage to work centres. With a view to facilitate free movement

of traffic to the scheme area and also to link it directly with the main urban area of the city, a road of 160' in width is under construction along the outer-limit of the scheme area. The construction and maintenance of road inside the city is the work of Municipal Council, Sri Ganganagar. On an average, Municipality is making an expenditure of Rs.25 lacs per year under the road development programme, which includes widening and improvement of existing roads as well as construction of new roads. Public Works Department of the state government is also spending Rs.20 lakhs for the improvement in the portion of National Highway passing through the city. A programme for the construction of new bus stand costing Rs.50 lakhs is also being undertaken.

### **Development of Mandi**

The development of a raw mandi in Sri Ganganagar is being undertaken by Rajasthan Agricultural Marketing Board of the state government. A new class 'A' grain mandi of 700 shops with open yards and auction platforms has been developed by Krishi Upaj Mandi Samiti, Sri Ganganagar at a cost of Rs.200 crores. The mandi shops have not yet been allotted and so it is non-operating. The investment presently seems to be freezed as it is not giving any return.

### **Development of Industrial Area**

The development of industrial area in the town is being done by Rajasthan Industrial and Mineral Development Corporation. An industrial estate has already been developed on Abohar Road consisting of 33 plots and 44 built-in sheds to house small scale and light manufacturing units. The industries department has moved the government for another industrial area (estate) to be developed on an area of about 40 acres near the Sadul Textile Mill. The provision for water supply and drainage facilities within the industrial area is already there, but the treatment of industrial effluents is a problem to be dealt with.



### **Housing Construction**

Rajasthan Housing Board is developing a housing colony near the present IDSMT Project area. At present about 820 houses are under construction for which housing board is incurring an expenditure of about Rs. 2.00 crore per annum. Most of these houses are for low income group. In near future also housing board shall be constructing houses in Sri Ganganagar at the rate of 200 houses per annum, and for this, the Board needs approximately 100 acres of land immediately.

### **SLUM IMPROVEMENT PROGRAMME**

A large number of **Katchi basties** exists in Sri Ganganagar town and their improvement is quite a big problem. At present, Municipal Council Sri Ganganagar is the only agency engaged in the development of these basties. On an average, it is spending about Rs.6.00 lakh annually for the improvement programme in the **Katchi basti** areas. Municipal council intends to take up large scale development programme in near future, depending upon the availability of funds.

### **Water Supply**

Availability of water is no problem in Sri Ganganagar due to the proximity of main Gang Canal, but its treatment and distribution is the real problem. At present municipal council is looking after the city water supply scheme. It has already got an augmentation programme of additional 25 lakh gallons/storage 'Diggi' is being constructed with a capacity of about 15 lakh gallons, while tube wells are also being dug for raw water supply. On an average, municipal council is spending about Rs.12.00 lakhs for water supply development programme. An over-head tank shall be constructed to feed the Jawahar Nagar scheme phase I and II.

### **Sewerage and Drainage**

The city does not have a sewerage programme as yet. However, a comprehensive scheme for sewerage in the

entire town is under consideration and is likely to be finalised soon. Drainage was no problem in the early stages of the town's development, but now it has assumed a major dimension. The road side drains have been constructed to facilitate smooth drainage. On an average, municipality is spending about Rs.6.00 lakh for drainage work alone.

### **Community Facilities**

Educational facilities in the town are being looked after by the Education Department of the state government. In the project areas, land has been earmarked for higher secondary and primary schools. The municipal council shall provide developed land to the concerned departments for the construction of these facilities. The land for a new general hospital has been earmarked in Sri Ganganagar and medical department is taking up its work programme. During 1979-80, a budgetary allocation of Rs.32 lakhs has been made for the construction of a new hospital and in the subsequent year also about Rs.60.00 lakhs is expected to be provided by the municipal council. The council shall also be maintaining about 52 major and minor parks and organised open spaces in the city, with an annual expenditure of about 2.50 lakhs, and about 50 per cent of this amount shall be spent on development of new parks and open spaces.

### **REFERENCES**

1. In the original document, there was a provision of 1250 residential plots but during implementation, the number of plots has been increased to 1463.

## 5 IMPLEMENTATION AND EVALUATION

Initially three projects were conceived by Town Planning Organisation under the centrally sponsored programme in Sri Ganganagar, namely, Jawahar Nagar Phase II a residential scheme, development of Bus Stand shopping complex and Link Road as mentioned in Chapter 4. However, due to certain constraints, the second project of Bus Stand shopping complex to be referred to in Chapter 9 was dropped. The Urban Improvement Trust (UIT) Sri Ganganagar, was entrusted with the task of implementation of the IDSMT programme besides the other development works being undertaken by the authority.

The two projects, viz., Jawahar Nagar Phase II and Link Road, form the parts of component 'A' of the centrally sponsored integrated development programme. The UIT (hereinafter to be called Trust) has undertaken various other development programmes by adding and upgrading services and infrastructure in the town by its own efforts and resources. Such projects vary from the upliftment of the urban poor including those in the slum areas to the simulation in the city infrastructure. Besides, there are other development and improvement programmes pertaining to the housing for economically weaker sections, improvement of slums and their environmental conditions, sewerage and drainage which have been covered under the component 'B' of the IDSMT programme. In this chapter, greater emphasis has been laid on project evaluation and an analysis of its impact.

**PROJECT UNDER COMPONENT 'A'****PROJECT I: JAWAHAR NAGAR PHASE II**

Jawahar Nagar is situated in the extreme south-east corner of the town beyond the newly constructed Sukhadia Circle. Adjoining to the circle towards south-east, S.D. College, an educational institution, is located and opposite to college there is a vast area known as Gaushala land. At a distance of 1 k.m. from the circle, there is a residential colony of the Rajasthan Housing Board, while the eastern side of the Circle is connected by a road leading to Suratgarh tehsil via S.D. College and PWD dak bungalow. This area of the town is unpopulated. Fig. 1 gives the location of projects and other important areas.

Although residential and commercial plots in Jawahar Nagar Phase I, (on the road side opposite to Jawahar Nagar Phase II) had been allotted long back, the construction of houses and other buildings has been very slow, maybe waiting for a fully developed infrastructure and services. Even the Housing Board colony was not populated till the Link Road was not constructed. Whatever population had been living in this area of the town, comprised of people mostly of slums and low income group (for locations see map of Sri Ganganagar).

Jawahar Nagar Phase II project is basically a residential scheme of 1463 residential plots with provisions of a community centre, one cinema hall and a shopping complex with 800 shops. The land acquired for this project is partly agricultural and partly barren and out of 53.5 hectares of land, only 38 hectares has been acquired completely. The remaining land could not be acquired, as it falls outside the jurisdiction of municipal limits. The area falling within municipal limits has been notified and the acquisition is under progress. A view of Jawahar Nagar Phase II could be seen from the picture as depicted in Fig. 2.

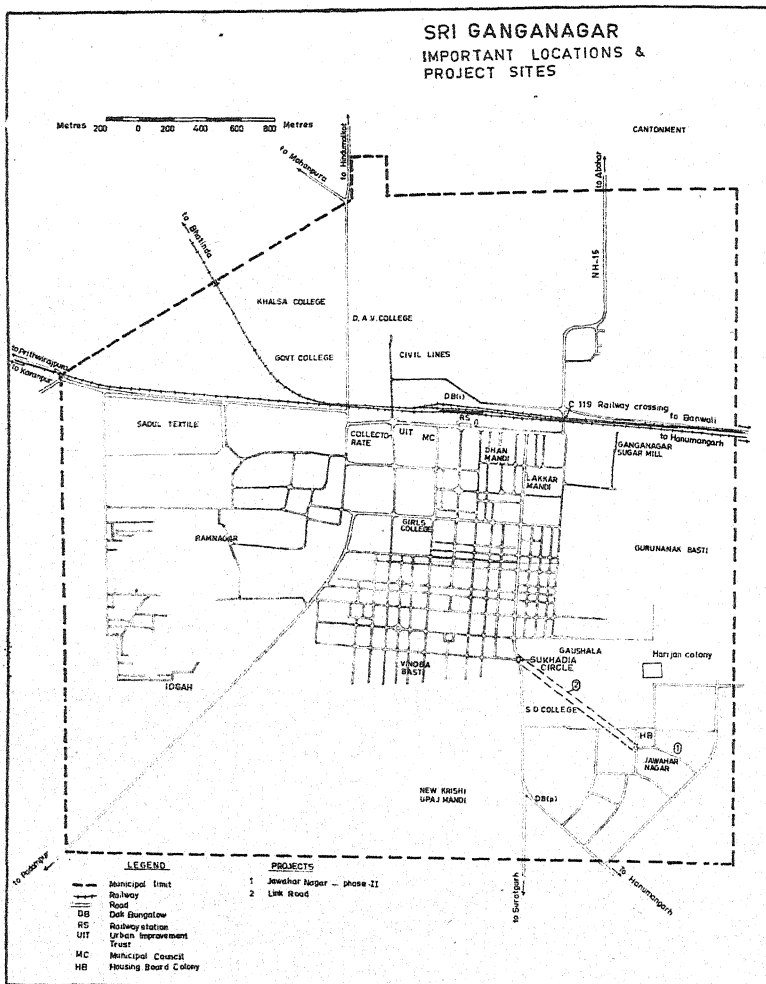
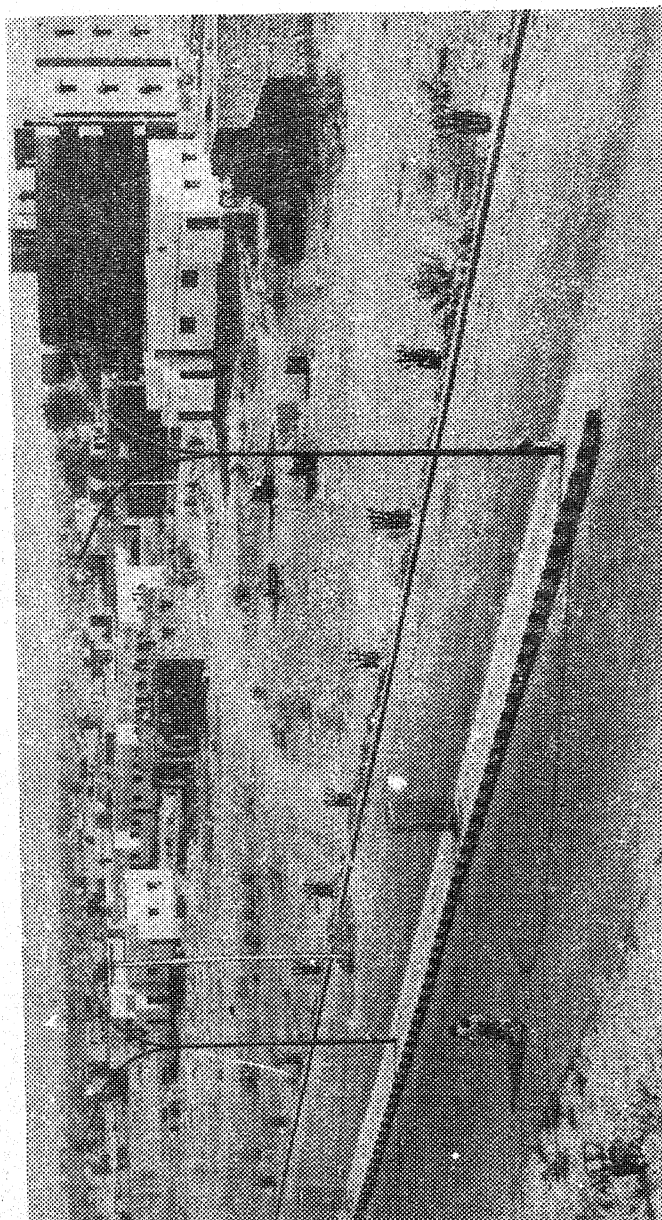


Fig. 1



**Fig. 2** A View of the Jawahar Nagar-II -- a Residential IDSMT Project Area Measuring 53.50 hectares. It provides for 1463 Residential Plots, a Community Centre and a Site for Cinema.

### Project Status

After land acquisition, its filling and levelling, dressing and culverting has been done. In most of the areas acquired, community facilities and services like water supply, drainage, electrification has been provided. The horticulture has also been developed. As the town does not have sewerage system, it has only been proposed in the project.

### Land Use

The land use pattern of this residential project as given in Table 1 indicates that about 40 per cent of the total area has been allocated for residential use, 25.4 per cent for roads, etc. District centre including the community centre would share 11.6 per cent of the total land-area, while park and open spaces including the cinema site about 12.15 per cent. About 4.42 per cent of the land area has been earmarked for schools and 5.8 per cent has been kept as reserved.

Table 1 LAND USE PATTERN OF JAWAHAR NAGAR PHASE II

Sl. No.	Particulars	Area in hectares	Percentage to total
1.	Residential	21.20	39.63
2.	District Centre and Commercial	6.20	11.59
3.	Park and Open Spaces	6.50	12.15
4.	Roads	13.60	25.42
5.	Educational Institutions	2.90	5.42
6.	Reserved Area	3.10	5.79
TOTAL		53.50	100.00

### Residential Plots

Jawahar Nagar, Phase II Scheme has a provision of 1463 residential plots of different categories accommodating all classes of people both rich and poor. Since 15.5 hectares of land is still under acquisition, only 844 residential plots of different sizes have so far been disposed of. Table 2 reveals that for the people belonging to the economically weaker section, the plot area is 90 sq. metres and for LIG 112.50 sq. metres. Both account for about 74 per cent of the total residential area.

Table 2 DETAILS OF PLOTS IN JAWAHAR NAGAR PHASE II

S.No.	Plot Size in Sq. meters	Total No. of plots	Total Plots disposed off	Percentage of	
				Col.3	Col.4
(1)	(2)	(3)	(4)	(5)	(6)
1.	6 x 15	745	313	50.92	37.08
2.	7.5 x 15	337	306	23.03	36.26
3.	9 x 19.5	143	107	9.77	12.68
4.	12 x 21	139	63	9.50	7.46
5.	12 x 27	18	4	1.23	0.47
6.	15 x 27	81	51	5.55	6.05
TOTAL		1463	844	100.00	100.00

The plots of 175.50 sq. metres (9m x 19.5 m) and 252 sq. metres (12m x 21m) sizes have been earmarked for the people belonging to the middle income group and accounting for 19.27 per cent of the total residential area, while the area of disposed of plots is already 20.14 per cent on the other hand, people from high income groups would be having still bigger plots measuring 324 sq. metres (12m x 27m) and 405 sq. metres (15m x 27m) with a



share of 6.52 per cent in the total pool.

It is also to be noted that all the plots do not lie currently within the municipal boundary as the notified land has yet to come under municipal possession. Eventually, the area would come after the extension of municipal boundary. Currently about 71 per cent of the project area has been acquired, of which about 70 per cent comes within the municipal limits. The location and areawise distribution of plots within and outside municipal limits is given in Table 3.

Table 3 LOCATION AND AREA OF RESIDENTIAL PLOTS  
WITHIN AND OUTSIDE MUNICIPAL LIMITS

S.No.	Plot Size (in M <sup>2</sup> )	No. of Plots		Percentage of Area		
		Within Municipal Limit	Outside Municipal Limit	Total	Col. 3	Col. 4
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	6 x 15	425	320	745	57.05	42.95
2.	7.5 x 15	311	26	337	92.29	7.71
3.	9 x 19.5	131	12	143	88.11	11.89
4.	12 x 21	81	58	139	58.28	41.72
5.	12 x 27	7	11	18	38.89	61.11
6.	15 x 27	63	18	81	77.78	22.22
TOTAL		1018	445	1463	69.58	30.42

#### Disposal of Plots

It has been mentioned that of the total land area acquired in Jawahar Nagar Phase II, 50.70 per cent has gone for residential use and from the remaining land to

be acquired from urban villages, presently out of the municipal limit, 42.30 per cent would be apportioned for residential uses.

The mode of disposal of residential plots has already been discussed in Chapter 4. However, as against the proposed norm of the reserve price of Rs.48 per sq. metre for residential plots and Rs.96 per sq. metre for commercial plots, a reserve price of Rs.98 per sq. metre has been fixed for both the types. It has further been decided that people belonging to the lower income group, whose income falls below Rs.600 p.m. will be given plots of the size upto 150 sq. metres, at a rate half of the reserved price, while middle-income group within an income range between Rs.600-1500 p.m. will be given plots having an area upto 300 sq. metres, at the reserved price. It has further been proposed that plots for the higher income group people, whose income is more than Rs.1500 p.m. will get by auction only. The size of plots for the purpose of auctioning has been fixed at 300 sq. metres. The position of disposed of plots of various sizes is being given in Table 4.

Table 4 MODE OF DISPOSAL OF RESIDENTIAL PLOTS

S.No.	Size of Plots (Sq. meters)	No. of Plots Disposed of		Percentage of Disposed of Plots	
		Allotted	Auctioned	Allotted	Auctioned
1.	6 x 15	313	-	100.00	-
2.	7.5 x 15	306	-	100.00	-
3.	9 x 19.5	53	54	49.53	50.47
4.	12 x 21	37	26	58.73	41.27
5.	12 x 27	-	4	-	100.00
6.	15 x 27	-	51	-	100.00
TOTAL		709	135	84.00	16.00

From Table 4, it appears that for the purpose of allotment people in the lower income group have been divided into: (i) those earning less than Rs.250 p.m., i.e., the people from economically weaker section (EWS), and (ii) those whose monthly income ranges between Rs.250-599, the lower income group people (LIG). Plot size for the EWS is 6 x 15 sq. metres, while for LIG, it is 7.5 x 15 sq. metres. Both the groups have been allotted plots: EWS-313 and LIG-306, at the fixed reserve price only through lottery system. For the middle income group two different income ranges were fixed for the purpose of registration of residential plots: (i) those getting a monthly income between Rs.600-899, say lower middle income group (LMIG) and (ii) those earning between Rs.900-1499 p.m. say upper middle income group (UMIG). The plot size for LMIG is 9 x 19.5 sq. metres and for UMIG, it is 12x21 sq. metres. But the mode of disposal of plots has been different from the norm laid down for this income group. Only 50 per cent plots for LMIG people were allotted and the remaining 50 per cent auctioned. Likewise, in UMIG also, 59 per cent plots were allotted and 41 per cent auctioned.

According to the proposal submitted by the Town Planning Department for the integrated development programmes, a higher income group person (HIG) was identified as getting a monthly income of Rs.1500 or more. For this class, two different sizes of plots measuring 12 x 27 sq. metres and 15.27 sq. metres were earmarked and auctioned.

### **Disposal of Plots and Economic Welfare**

The disposal of residential plots has been the lowest for economically weaker section (EWS) @ Rs.4,244 followed successively by the low income group (LIG) @ Rs.5,515, for lower middle income group @ Rs.6,994, and for upper middle income group (UMIG) @ Rs.8,982. It is important to note that each type of plot has been allotted at a minimum price through lottery, a fair deal (Table 5).

However, each type of plot both under MIG and HIG groups has been auctioned against the norms fixed for disposal. The auction bids have been very high and

Table 5 DISPOSAL RATE OF PER PLOT IN EACH INCOME GROUP

Sl. No.	Income Group	Size of Plot (sq. meters)	Rate of Disposal (Rs.)	
			per plot	per sq. meter
1.	EWS	6 x 15	4,244	47
2.	LIG	7.5 x 15	5,515	49
3.	LMIG-1	9 x 19.5	6,994	40
4.	LMIG-2	9 x 19.5	25,525	145
5.	UMIG-1	12 x 21	8,982	36
6.	UMIG-2	12 x 21	38,811	154
7.	HIG-1	12 x 27	48,750	150
8.	HIG-2	15 x 21	68,485	217

**Note:** Among income group 1 and 2 denotes disposal through lottery and auctioning, respectively.

lucrative source of revenue to the Urban Improvement Trust. Plots of the size 9 x 19.5 sq. metres meant for lower middle income group have been sold for Rs.25,525, while those of 12 x 21 sq. metres meant for the upper middle income group sold for Rs.38,811. The two different sizes of residential plots measuring 12 x 27 and 15 x 21 sq. metre for the provision of high income groups have been sold @ Rs.48,750 and Rs.68,485, respectively.

It is however revealing that the minimum disposal price received from the upper middle income group for the plot size of 12 x 21 sq. metre has been Rs.36 per sq. metre followed by the price of Rs. 40 per sq. metre for the plot size of 9 x 19.3 sq. metre meant for lower income group people. However, it looks paradoxical to note here that the above two categories of plots should have not been given at a rate below the fixed reserve price since EWS has been allotted residential plots @ Rs.47 per sq. metre, and LIG @ Rs.49 per sq. metre as against the reserved price of Rs.98 per sq. metre. Although the two lower strata have got the plots at reasonable rates of discount at 50 per cent of the

reserved price, the middle class people have received more concessions, about 60 per cent, who should have been allotted at the reserved price only.

### Role of HUDCO and UIT

Although a poor man belonging to a lower income group gets a land for the construction of his house at a reasonable price, it is still very difficult for him to construct a house. The Urban Improvement Trust, which is the implementing authority of the IDSMT programme has been fully aware of the situation and approached the banks for a loan advance of Rs.5,000 available to each of the poor people (EWS and LIG) at the nominal rate of interest, i.e., @ 4 per cent per annum only so that they could buy their plots. This disbursement of loans however formed a part of the Prime Minister's New 20-point programme. The Bank was approached for the grant of loans to the poor people for buying plots.

Table 6 indicates that an amount of Rs.15.65 lakh has been sanctioned by the banks for the Jawahar Nagar Phase II being developed under the IDSMT Scheme. This is an example of development with an integrated policy of financial management.

Table 6 DISBURSEMENT OF LOANS BY BANKS

Sl. No.	Name of the Bank	No. of families covered	Total amount ('000 Rs.)
1.	State Bank of Bikaner and Jaipur, Sri Ganganagar	340	1,700
2.	New Bank of India, Sri Ganganagar	174	870
3.	Bank of India, Sri Ganganagar	105	525
TOTAL		619	1,565

More so of integrated development could be seen in the admirable role being played by the Urban Improvement Trust in achieving its second goal of constructing houses for the urban poor by managing loan from the Housing and Urban Development Corporation to the extent of Rs.8,000 for EWS houses and Rs.18,000 for LIG houses. It is not only the EWS and LIG people, but also the MIG and HIQ people who are being financially helped by the HUDCO and a loan @ Rs.25,000 and Rs.42,000, respectively for both the groups is being sanctioned. But since the HUDCO, the financial institution granting loans on the basis of its fixed norms of Rs.8,000 for EWS and Rs.18,000 for LIG for the construction of houses (excluding land cost), the remaining cost of construction of (EWS and LIG houses) is being borne by the Improvement Trust itself. It shows an active involvement of the Trust in the development process and a generous cooperation of the public.

The EWS and the LIG houses are being constructed by the UIT through private contractors. Both the types of housing units have a greater access to better facilities and quality of life than under the prescribed norms of HUDCO. A complete pucca structure with plastered walls, roof and floor with a WC bath and kitchen and a covered varandah, an additional structure is being provided but with an escalated amount than the HUDCO cost. The total cost for an EWS house comes to Rs.20,000 and for LIG house Rs.25,000. The additional cost of Rs.7,000 for EWS and Rs.2,000 for LIG is being financed and borne by the UIT which has given an additional amount of Rs.28.03 lakh (Rs.21.91 lakh for EWS houses and Rs.6.12 lakh for LIG houses).

### **Progress of Implementation**

The UIT has made significant strides to attain the project objectives in so far as the development of physical environment of the project area is concerned. From the Table 7 it appears that of the total area earmarked for the road construction, only 63 per cent has been covered under roads. Parks and open spaces more or less have been fully developed achieving 80 per cent of the

Table 7 OBJECTIVE TARGETS AND ACHIEVEMENTS IN  
THE PROJECT IMPLEMENTATION

Sl. No.	Items	Objective Target	Achievement	Percentage Achieved
<b>I. Physical Implementation</b>				
1.	Land Acquisition			
	(in hectares)	53.5	38	71.03
2.	Residential Plots			
	(i) Area (in hectares)	21.20	12.83	60.52
	(ii) Number allotted	1463	844	57.69
3.	Sites and Services			
	(i) Road Area (filling and levelling) in hectares	13.6	11.8	86.76
	(ii) Road Construction (in sq. km.)	.136	.086	63.23
	(iii) Parks & Open Space (in hect.)	6.5	5.2	80.00
4.	Reserved Area			
	(in hectares)	3.1	2.3	67.74
<b>II. Community Facility</b>				
1.	Educational Institution			
	(in hectares)	2.9	2.3	79.31
2.	Market			
	(i) Distt. Centre and Commercial Area (in hectares)	6.2	4.6	74.19
	(ii) No. of Shops	800	594	74.19
3.	Water Supply			
	(construction of an overhead tank)	1	1	100.00

This physical implementation of the programme in respect of various community facilities and services has almost been completed with the exception of an overhead water tank which is nearing its completion. A view of the new developments in Jawahar Nagar, Phase II contained in Fig. 3 exhibits hundred per cent achievement even before the construction of housing units completely. The completion of an overhead tank, a major community infrastructure for the supply of water would accelerate the pace of housing construction further (unbalanced growth strategy). Although the construction work has been given to private contractors, the UIT's efforts in the construction are admirable because of its effective monitoring in completion of the project within the time schedule.

The road lights and electrification of streets in the acquired and developed land area have been fully completed. Due to certain delay in the supply of electricity by the Electricity Board for want of polls, the UIT had made an agreement with the Board to supply its own polls, and because of this radical action on the part of trust the electricity could be provided in the area. However, each house is expected to take an electricity connection by paying the extension charges, etc.

The problem of water logging in the town has been more acute but in most of the areas, the water has been drained off and the area has since been filled up and levelled for human use (Fig. 4). With the progress in land and levelling activity, there has been an improvement in the drainage system also. The work relating to the laying down of pipelines is under progress with an achievement of 30 per cent as on March 1984 only. Although a provision was made for the sewerage in the area, this service has not been provided in the town so far. However, this component is a growing need of the town as it affects the quality of life.

Most of the commercial areas and plots including the site for a cinema hall are ready for disposal but they have not been allotted so far because of the low rate of auction bids not fetching the anticipated price. The



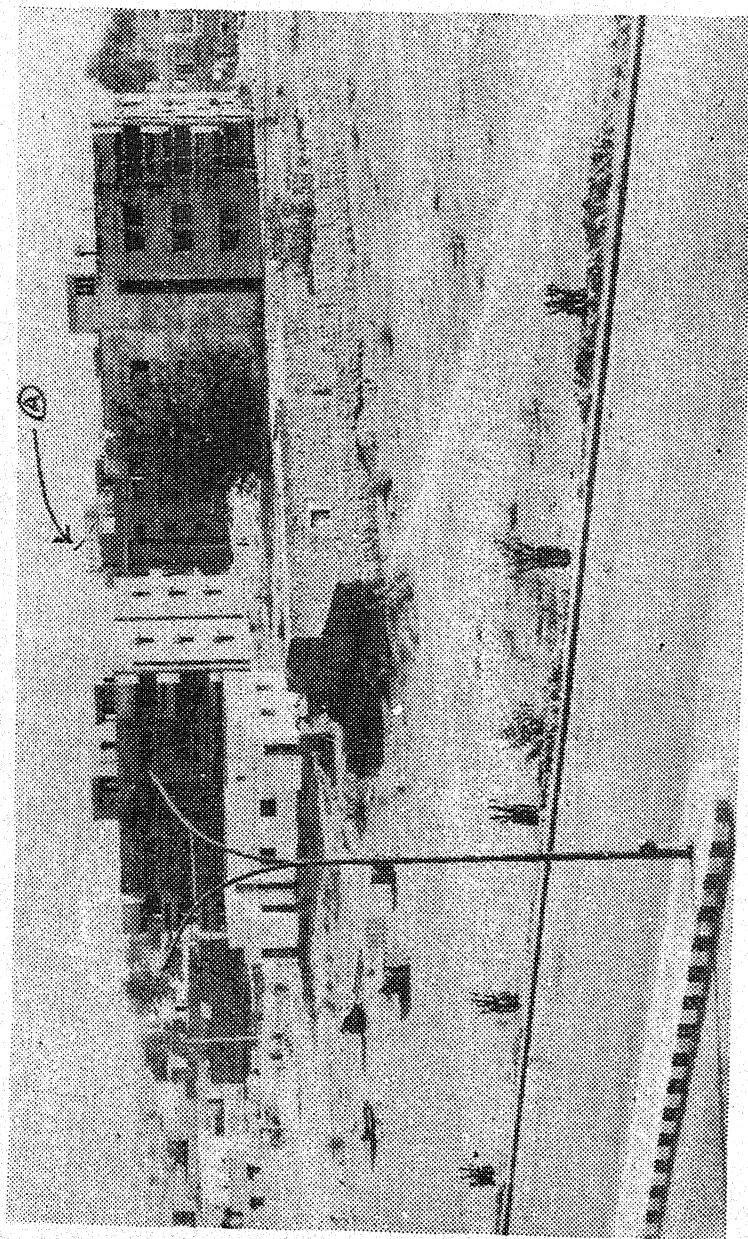
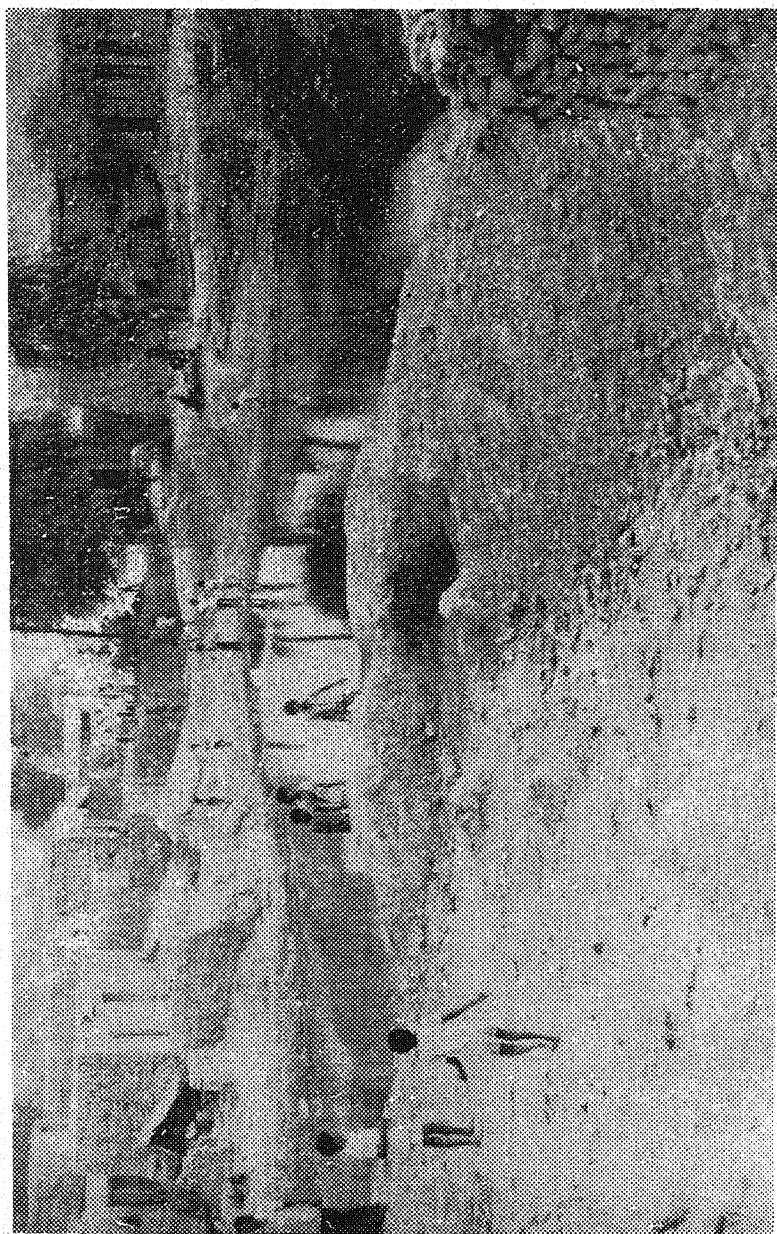


Fig. 3 Shows Coming up of New Developments in Jawahar Nagar-II. (A) The Arrow shows Construction of an Overhead Tank



**Fig. 4** Exhibits Land Filling and Levelling  
Activity in Gandhi Nagar

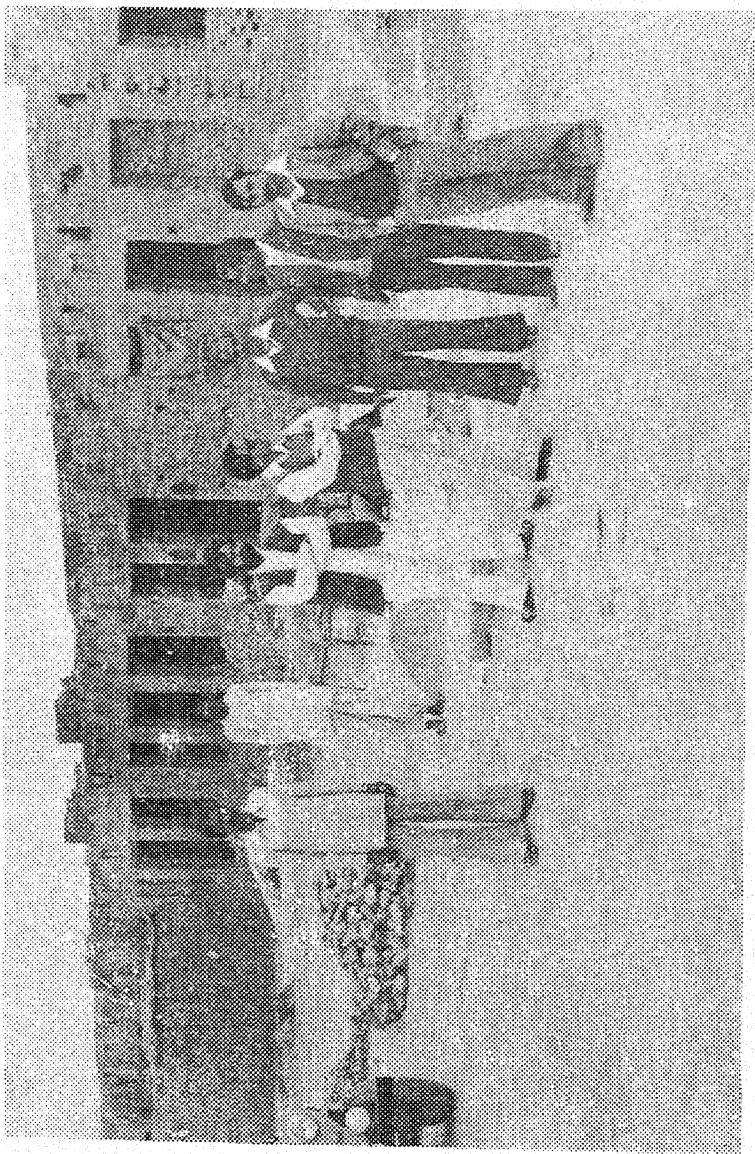
auctioning has been deferred for the time being till most of the housing units are constructed and habitation starts. Thereafter, the demand for shops and cinema hall would automatically rise and hence, the decision of deferring sale seems to be a rational one. Provisions for the location of other community facilities and services like health and a community centre have been made alongwith sufficient open and recreational space.

### **Socio-economic Improvements**

The Jawahar Nagar residential scheme under IDSMT programme was undertaken to improve the socio-economic status of the people by providing an independent accommodation to 1,463 families constituting about 7 per cent of the households. However, this percentage coverage has been more significant to the lower income groups particularly EWS and LIG, where out of a targeted 40 per cent rehabilitation of the families including those of slum area, nearly 15 per cent of the target has been achieved in this scheme only. But if one goes through the other residential schemes carried on by the UIT on its own efforts under component 'B', the percentage coverage would be fairly high, at 25 per cent. One such example of the rehabilitation of economically weaker sections of the community is the newly developed area of Shyam Nagar (Fig. 5). However, after the completion of the project, the target of achievement is expected to be far higher.

More significant is the role of loans being provided particularly to the economically weaker section and poor persons. The targeted achievement for the allocation of plots to different income groups though varies, it is significantly higher for LIG with 91 per cent followed by 60 per cent for MIG, 56 per cent for HIG and only 42 per cent for the EWS. The less percentage coverage for the EWS is because of pending land acquisition.

The UIT is meeting the entire 100 per cent cost of construction for both the EWS and LIG houses. It is the most significant and unique feature of this programme. It is also important to note that these families would be required to pay the cost of their houses on hire purchase



**Fig. 5** Exhibits Construction of New EWS Houses  
in Shyam Nagar

basis in easy instalment at a very low rate of interest. About 52 per cent of the rich and middle income group people have also been provided financial assistance. The progress of implementation and the number of project beneficiaries is given in Table 8.

Table 8 PROGRESS OF IMPLEMENTATION AND  
BENEFICIARIES OF THE PROJECT

Sl. No.	Incoming Group	Target	Achievement	Percent- age Achieved
-----				
<b>I. Housing Plots</b>				
1.	Economically Weaker Section (Upto Rs. 250 p.m.)	745	313	42.0
2.	Low Income Group (Rs. 250-599 p.m.)	337	306	90.8
3.	Middle Income Group (Rs. 600-1499 p.m.)	282	170	60.3
4.	Higher Income Group (Rs. 1500 and above p.m.)	99	55	55.6
<b>II. Housing Loans per House (in '000)</b>				
1.	EWS(a) Plots	5	5	100.00
	(b) Construction	15	15	100.00
2.	LIG(a) Plots	5	5	100.00
	(b) Construction	20	20	100.00
3.	MIG(a) Plots	--	--	--
	(b) Construction	48	25	52.00
4.	HIG(a) Plots	--	--	--
	(b) Construction	75	42	56.0

Further, the additions and improvements to the housing stock and access to better infrastructures and services have been an added gain to the town both quanti-

tatively and qualitatively.

Immediately after the provision of infrastructural services, the allottees of the housing plots started their construction. Nevertheless, the project impact has been very extensive and the project evaluation indicates that nearly 4 per cent of the total households of the town have directly benefited from this project implementation.

### **Cost Effective Monitoring**

The cost is an important factor in any project implementation because it determines its 'value'. The total 'value' of any residential project includes the total cost on land acquisition and development, its filling and levelling and subsequent investment in the provision of infrastructural and community services. Since the acquired land has not yet been developed fully, it is very difficult to assess the 'cost of this scheme. Even then, an effort has been made to estimate the cost. Out of an estimated expenditure of Rs.1.04 crore, Rs.74.15 lakh (71.27 per cent) has been spent so far (Table 9). Thus, the cost has not exceeded from the targeted expenditure. This is obviously because of the implementation and monitoring of the project within the time schedule. But, the total 'cost' of the whole project is expected to increase to Rs.1.41 crore from its target expenditure of Rs.1.04 rores, escalating the extent by 35.5 per cent.

As area of 38 hectares of land was acquired during 1979-80 but its payment was made by the UIT during 1980-81 and 1981-82. Although land acquisition forms a part of the items contained under component 'A' of the IDSMT programme, yet, it has not been mentioned in the central assistance utilisation-certificates submitted by the UIT. Hence, its entire money burden seems to have fallen on the shoulders of UIT.

The task of land development was undertaken by UIT and the labourers were hired for different purposes. And, the cost of labour on each item has been included in the respective expenditure shown against each head. The

Table 9 ACTUAL AND EXPECTED COST OF LAND DEVELOPMENT

Sl. No.	Heads	Target	Actual	Expected	Per Sq.	
		Expendi- ture (Rs. lakhs)	Expendi- ture (Rs. lakhs)	Expendi- ture (Rs. lakhs)	Meter Expendi- ture(Rs.)	
					incur- red	Exp- ected
1.	Land Acqui- sition	21.60	20.42	28.75	5.37	5.37
2.	Land Filling and Levelling	0.50	0.35	0.50	0.09	0.09
3.	Road and Cul- verts	24.00	35.75	50.33	9.41	9.41
4.	Water Supply	15.00	5.60	15.00	1.47	2.80
5.	Drainage	3.00	0.77	3.00	0.20	0.56
6.	Sewerage	10.00	-	10.00	-	1.87
7.	Electri- fication	8.00	8.00	11.26	2.11	2.11
8.	Horticulture	4.00	2.77	4.00	0.73	0.75
9.	Miscellaneous	14.10	0.49	14.10	0.13	2.64
10.	Interest	3.84	-	3.84	-	.72
TOTAL		104.04	74.15	140.78	19.51	26.32

total wage bill amounting to Rs.5.20 lakhs gives unit expenditure of Rs.1.37 per sq. metre.

The cost of land development at present is Rs.19.51 per sq. metre which is expected to rise upto Rs.26.32 per sq. metre. This includes all expenditure mentioned under different heads as given in Table 9. Besides, it also includes the administrative expenses including audit charges contained under 'miscellaneous' head. In the process of land development cost on the construction of



roads and its culverting was Rs.9.41 per sq. metre, followed by land aquisition at Rs.5.37 per sq. metre, water supply, Rs.2.80 per sq. metre, electrification Rs.2.11 per sq. metre and on account of miscellaneous expenditure Rs.2.64 per sq. metre. However, the expenditure on other items is less than Re. 1 per sq. metre except the expenditure on sewerage and drainage, which is only an estimated proposed of expenditure of Rs.1.87 per sq. metre which may be incurred in near future.

### **Project Yields and Benefits**

It is a difficult task to estimate the revenue yields from an incomplected project. To get an account of benefits from project implementation, it is necessary to have an idea of both actual and expected revenue yields. It has already been stated that the actual cost on land development has been Rs.19.51 per sq. metre (which is expected to go high at about Rs.26.32 per sq. metre), whereas the reserve price has been fixed at Rs.98 per sq. metre. Secondly, the rate of disposal of plots for the middle income group, through allotment, has been even lower than those falling under lower income group. Therefore, in calculating the revenue yields, the following assumptions have been made:

- (i) amount received from the disposal of land is 'actual';
- (ii) the 'expected' receipts from EWS calculated at the rate of Rs.48 per sq. metre and from MIG at the rate of Rs. 98 per sq. metre;
- (iii) the expected receipts from auction bids of the plots belonging to HIG people would be the same as for the already disposed of plots; and
- (iv) commercial plots will be sold at a minimum rate of Rs.200 per sq. metre.

The total revenue received from the disposed of plots has been of the order of Rs.97.88 lakh and a minimum amount of Rs.92 lakh is expected from commercial plots which are also ready for auction. Thus, total expected



revenue from the acquired and developed land will be Rs. 1.90 crore but the total revenue yield from the implementation of the project is expected to be Rs.2.62 crore.

In calculating profits, the financial assistance of Rs.28.03 lakh extended to the EWS and LIG houses has been added in the project cost. After discounting all costs, a sum of Rs.88 lakh over and above the project expenses has been recovered. However, the amount of profit is equivalent to 86 per cent of the project cost and it is expected to reach upto Rs.1.30 crores after project implementation. Thus, the housing scheme has been a profit earning project and a lucrative source of earning. The task before the UIT is reutilisation of profits and making further capital investments for generating more urban infrastructure and services.

### **Employment Generation**

The implementation of the project has also generated employment for the urban poor which is most often treated as justification for undertaking projects. The hiring of labour particularly during land filling, levelling, construction of roads and culverting is very common practice during land development process. But its further 'induced' effect, would however be on the employment generation in the construction of 1,463 housing units, 800 shops and other construction works relating to various offices, community facilities and the cinema hall. However, since labour mobility is very fast and depends on the period of construction, the supply of labour an 'induced' effect of employment generation in the construction industry can hardly be estimated when the construction work has just started.

The project implementation has taken 1000 days beginning from land acquisition to the land development activity. A number of activities have been undertaken from January 1980 onwards. The labour used in these activities revealed that the ratio of unskilled to skilled labour has been 2:1 and accordingly there have been wage differentials also. The skilled labour was paid @ Rs.35 and unskilled @ Rs. 15 per day. It has been earlier

Table 10 REVENUE YIELDS FROM THE PROJECT IMPLEMENTATION

Sl. No.	Plot Size (sq. metres)	No. of Plots	Mode of Allotment	Amount Received (Rs. in lakhs)
<b>I. Residential Plots Disposed of</b>				
1.	6 x 15	313	50% at RP	13.22
2.	7.5 x 15	306	50% at RP	16.87
3.	9 x 19.5	53	at RP	3.71
4.	12 x 21	37	at RP	3.33
5.	9 x 19.5	54	Auction	13.78
6.	12 x 21	26	Auction	10.09
7.	12 x 27	4	Auction	1.95
8.	15 x 27	51	Auction	34.93
<b>TOTAL I</b>		<b>844</b>		<b>97.88</b>
<b>II. Plots to be Disposed of</b>				
1.	6 x 15	432	50% at RP	18.25
2.	7.5 x 15	31	50% at RP	1.71
3.	9 x 19.5	36	at RP	6.19
4.	12 x 21	76	at RP	18.77
5.	12 x 27	14	Auction	6.83
6.	15 x 27	30	Auction	20.54
7.	Commercial	800	Auction	92.00
<b>TOTAL II</b>		<b>1,419</b>		<b>164.29</b>
<b>GRANT TOTAL (I+II)</b>		<b>2,263</b>		<b>262.17</b>

Note: RP = Reserve Price.

stated that the total wage bill amounted to Rs. 5.20 lakh. This reveals creation of employment for 16 unskilled labourers and 8 skilled labourers for a period of

three years in the project, mainly in land development activity. Again the construction of 619 housing units for EWS and LIG by the private contractors have also generated a total employment for about 2,500 persons.

### Project Affordability and Discounted Value

Affordability is a key issue in determining the appropriateness of a project, whether it could be afforded by the economically weaker sections and the people from low income group. It has been discussed earlier that person in both the EWS and LIG will be allotted houses on hire purchase basis and they will be required to pay interest at a very nominal rate of 4 per cent per annum. The feasible instalment has also been worked out for both the classes of urban poor, namely, EWS and LIG, and each class has to pay a sum of Rs. 36,000 within a period of 40 years (EWS) and 30 years (LIG), respectively as against their present value of Rs.20,000 for EWS and Rs.25,000 for LIG. A monthly instalment of Rs. 75 would be paid by EWS household and Rs. 100 by LIG household.

Table 11 FEASIBLEMONTHLYINSTALMENTRATES FOR  
EWSANDLIG HOUSES

Economic Class	Income inter-val(Rs.)	Cost of House (Rs.)	Actual Cost Payable (Rs.)	Duration (Years)	Monthly Instal-ments (Rs.)
EWS	Upto 250	20,000	36,000	40	75
LIG	250-599	25,000	36,000	30	100

## AFFORDABILITY RATE FOR EWS

Affordability has been estimated as follows:

$$C = aY$$

Where, C = Monthly project cost\*

a = Average propensity to spend on housing, and

Y = Monthly income

The future value worked out for EWS house is Rs. 96,020 at the 4 per cent rate of interest per annum spread over a period of 40 years. The monthly project cost or 'C' comes to Rs. 200 based on the future value. The average propensity to spend of an EWS family has been found out as 0.30 or 30 per cent of their average monthly income giving an upper limit of Rs. 250. Hence,  $aY$  becomes Rs. 75 which is much below 'C', the monthly project cost of Rs. 200. Now, it can certainly be stated that housing project is fully within affordable limits to the most of the economically weaker people and it is in conformity with the laudable plan objective of 'removal of poverty' through the scheme.

## Affordability Rate for LIG

Again, the future value of the LIG house at a nominal interest rate of interest of 4 per cent recoverable within a span of 30 years comes to Rs. 81,085 which gives the value of monthly project cost 'C'. However, the average propensity to spend on rents for this class has been worked out as 20 per cent of their monthly income, and hence the value of 'a' becomes 0.20. Taking the average monthly income of an LIG family as Rs. 500, i.e., the value of Y,  $aY$  becomes Rs. 100 which is also much below Rs. 225, the value of 'C'. Therefore, this housing project is also equally affordable by low income group

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\*The cost concept here is one of 'occupancy cost' represented by the rental charge of total housing cost, fully amortised on a monthly basis.

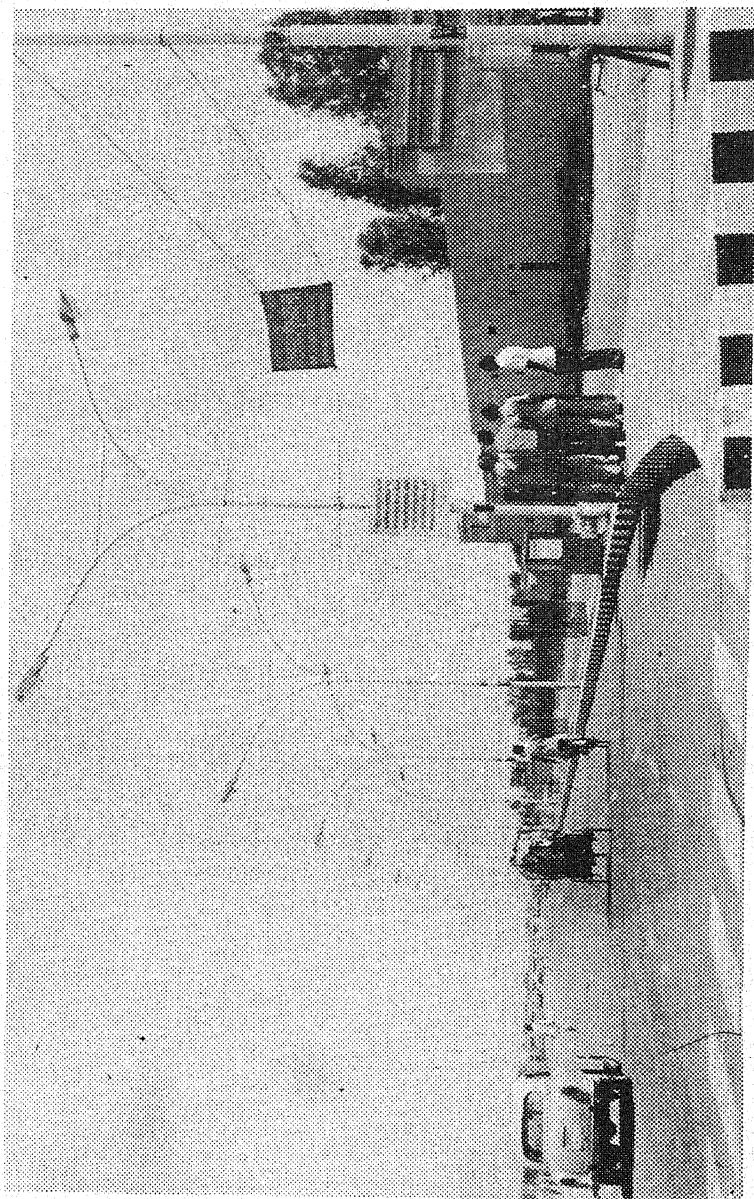
families, which is an indication of the project having an 'inherent' inbuilt mechanism for the removal of poverty and improving the socio-economic status of the urban poor.

## PROJECT 2: LINK ROAD

The Link Road is a vital infrastructure added to the town connecting Jawahar Nagar II (Project 1) directly from the main city. It is essentially a 'linkage' to the first project and equally necessary for other localities of the town, namely, Jawahar Nagar Phase I, Housing Board Colony and parts of the slum area. The Link Road connects the Sukhadia Circle to Jawahar Nagar junction and passes through S.D. College, on one side, and the Gaushala, on the other. For the location of Link Road, see the map of Sri Ganganagar (Fig. 1).

A land of 3.6 hectares was acquired from the land owners of Gaushala in November 1981 to construct road. The 800 metre road has since been completed with a total width of 45 metres including both sides of foot path and having one central path. This central path divides the road in two parts to follow one-way traffic rules. It is electrified with modern fitting (flood lights) and planted trees. The road is equally lightened with flood lights fitted on both sides of each electric poll grounded on central path. Each side of the road is 16 metre wide with a 6 metre footpath on either sides and 1 metre wide central path. Thus, it is a 32 metre wide road available for vehicular traffic, 12 metres for pedestrians and 1 metre for electrification and horticulture. A view of the newly constructed 150 feet wide Link Road connecting Jawahar Nagar II to the main city could be seen in Fig. 6.

The Link Road, which has been completed in all respects, is a pucca road with black top and is maintained by the UIT. The flood lights and fountain at Sukhadia Circle has given an added grace to the beauty of the town. During evening people come from the town to have a colourful view, enjoy and pass their evenings in



**Fig. 6** A View of the Newly Constructed 150 feet wide Link Road connecting Jawahar Nagar-II to the Main City.

the adjoining park.

### **Project Cost**

The total expenditure incurred on the construction of the Link Road has been Rs.21.77 lakhs which gives an expenditure of Rs. 60.47 per sq. metre. The total land acquisition cost has been Rs. 1.40 lakhs purchased at the rate of Rs. 3.88 per sq. metre. It is cheaper than the land acquired for Jawahar Nagar II project @ Rs. 5.37 per sq. metre. This land belonged to Gaushala and it was low-lying area, at places upto 15 feet deep. The construction of road alongwith its components is a major item in the total project cost which amounts to 70 per cent of the total cost. The construction cost of road and culverting has been very high at Rs. 15.25 lakh giving per sq. metre cost of Rs. 42.36 compared to Rs. 9.56 per sq. metre spent in the project. It also included expenditure incurred on land filling and levelling, the construction of road for vehicular traffic with black top, pedestrian roads and a central path of 1 ft. in height, made of bridge and subsequently plastered.

Expenditure on electrification was also higher at Rs. 4 lakhs or Rs. 11.11 per sq. metre than the expenditure of Rs. 2.11 per sq. metre incurred on project 1 because electric polls have been fitted closer to considering the width of the road; whereas in the residential scheme of Jawahar Nagar II, the pedestrian road was not more than 10 metres wide and street lights were fitted with bulbs or single tube lights only. An itemwise expenditure is being given in Table 12.

More attention has been paid towards horticulture activity on the Link Road by planting trees in-between two polls and covered with an-iron-net for its smooth and protected growth. The total expenses on horticulture activity have been Rs.92,000 giving a per sq. metre cost of Rs. 2.56.

### **Employment Generation**

Employment generation is by-product of any ancillary development activity which tends to give a 'multiplier'

Table 12 ITEMWISE PROJECT COST ON ROAD CONSTRUCTION

Sl. No.	Item	Expenditure (Rs. lakhs)	Percentage of Col.(3)	Expenditure in sq. mt.
(1)	(2)	(3)	(4)	(5)
1.	Land Acquisition	1.40	6.43	3.88
2.	Survey and Demarcation	0.20	0.92	0.56
3.	Road and Culver- ting Footpath	15.25	70.05	42.36
4.	Electrification	4.00	18.37	11.11
5.	Horticulture	0.92	4.23	2.56
TOTAL		21.77	100.00	60.47

effect by an induced development carried out through necessary utility services and increased demand for production-oriented goods and services. The development projects under the IDSMT programme in Sri Ganganagar are predominantly public utility services adopted probably through the 'unbalanced growth strategy', and hence, employment generation at the initial stages of development, has been a bye-product and an additional justification for undertaking IDSMT projects.

The total wage bill in this project amounted to Rs. 1.25 lakhs, taking 15 months, time for its completion. But the actual work carried out in this project took 385 days only indicating a loss of 15 per cent in the working days. However, there has been no loss in the wages as the labour was 'hired' on daily wage basis by the contractors who undertook the project.

The wages amounting to Rs.325 per day were shared by both skilled and unskilled labourers - the former getting



a share of Rs. 175 and the latter Rs. 150. Whereas the ratio of unskilled labour to skilled labour was 2:1. On an average, the Link Road project had created employment for 15 labourers (per day) for a period of 15 months.

### **Influence Zone and Beneficiaries**

The Link Road is mainly a vital infrastructure connecting Jawahar Nagar to the main city. Both the IDSMT projects under the component 'A' are mutually interdependent and integrated also. The construction of the Link Road has equally benefited all the resident households and shopkeepers in the adjoining area. It has been stated earlier that the whole municipal area lying beyond the Sukhadia Circle towards Jawahar Nagar passing through Gaushala has been almost unpopulated even after the construction of Housing Board colony. The demand for occupancy had been substantially low so far due to the absence of any direct linkage with the main city. Even the pace of construction activity in Jawahar Nagar Phase I was very low because of the same reasons. The only populated locality was that of slum dwellers. But with the implementation of this Link Road project, the whole Housing Board residential colony is now fully occupied and populated. The study also reveals that the construction work in both the phases of Jawahar Nagar is in its full swing.

The direct impact of the Link Road has been that of its forming an 'influence zone' (nuclei). Instead of being a single locality of Jawahar Nagar Phase II, it is an integral part of both the phases of Jawahar Nagar, Housing Board colony, parts of the slum areas, S.D. College and a nucleus of all surrounding villages falling on both sides of Suratgarh and Hanumangarh roads. Besides, the proposed locality of Sukhadia Nagar opposite to the S.D. College stretched along with Link Road would also join this 'influence zone'.

Further, there has been a chain reaction in the growth of other trading and commercial activities following the growth in the residential population. The tertiarisation of the town and the growth of commercial

activity is an additional benefit on account of the Link Road. Since, most of the houses are yet to be constructed in the Jawahar Nagar residential scheme and in the proposed Sukhadia Nagar development area, the expected beneficiaries have been estimated. An estimate of such beneficiaries within this influence zone of the city forms 13.6 per cent of the total number of residential units in the city, and 20 per cent of the entire influence zone including 25 surrounding villages. The percentage distribution of beneficiary households in relation to total households in the city comes to 4.2 per cent in Jawahar Nagar, Phase I, 3.8 per cent in the Housing Board Colony, 3.5 per cent in Jawahar Nagar Phase II, 1.6 per cent in slum areas and 0.5 per cent in Sukhadia Nagar. When the whole scheme of Jawahar Nagar II would be fully completed after acquiring the remaining land, the proportion of beneficiary households would rise to about 6 per cent. The corresponding proportion of benefited population and minimisation of commuting distance within the influence zone could be seen from the Table 13.

The next explanatory variable of the project benefits in the influence zone is the reduced amount of distance due to the construction of Link Road connecting the main city. In determining the two kinds of distances in the above situation, i.e., with or without project (the link road), various blocks as components in the 'zone' have been taken into account. The road distance from these blocks upto Sukhadia circle, the exit and the entry point to the city, via (i) Link Road and via (ii) Hanumangarh and Suratgarh roads have been measured, and then, their average distance calculated. The difference of these two situations gives the reduced distance which in the absence of Link Road would have been more. The Link Road has reduced a significant distance of 1.5 km. within the city zone and 1.7 km. in aggregate. The maximum benefit would accrue to the people of Sukhadia Nagar adjoining the Link Road, who would have an access to the city saving 1.8 km. of distance followed by the people in the slum area, Housing Board colony and Jawahar Nagar, who

Table 13 BENEFICIARIES IN THE INFLUENCE ZONE OF  
THE LINK ROAD

Sl. Localities within No. Influence Zone	No. of Residen- tial Units*	Population* (Expected Benefici- aries)	Distance Reduced (in kms.)
1. Jawahar Nagar Ph.I	1,020 (4.2)	5,800 (4.2)	1.2
2. Jawahar Nagar Ph.II	844 (3.5)	4,800 (3.5)	1.2
3. Housing Board Colony	909 (3.8)	5,160 (3.8)	1.5
4. Slum Area	400 (1.6)	2,650 (1.9)	1.7
5. Sukhadia Nagar	115 (0.5)	650 (0.5)	1.8
6. Village Congregation	1,860	11,380	1.1
TOTAL (1 to 5)	3,288 (13.6)	19,060 (13.9)	1.5#
GRAND TOTAL**	5,148 (19.8)	30,440 (20.5)	1.7#

\*Estimated figures for 1984.

\*\*Figures within parentheses denote percentages of the total residential houses and population covered for both city and village congregation.

#It is an average reduced distance due to the construction of the Link Road.

**Note:** Figures within parentheses denote percentages of the total residential units and population in the city.

would be economising distance by 1.7 km., 1.5 km. and 1.2 km., respectively.

Further, the shopkeepers, office goers and visitors to district centres in the influence zone would also be enjoying the same benefits by minimising the coverage distance, while entering the city. In fact, this might have been a remote possibility in the absence of Link Road.

### **Economic Feasibility of the Project**

The Economic feasibility of a road, if defined as a function of producer's surplus and consumer's surplus, the feasibility of a project could be clearly assessed and appraised. This could be expressed in terms of the following relationship:

EF is a function of PS/C and CS/C, or

$$EF = f(PS/C, CS/C)$$

Where, EF = economic feasibility of road,

PS = producer's surplus

CS = consumer's surplus, and

C = cost of road construction

In the case of Link Road, producer's surplus could be assessed in terms of value added (VAD) to the future agricultural and industrial production, trade, commerce, etc., to be carried out through this road and consumer's surplus assessed in terms of vehicle operating cost (VOC), i.e., savings by minimising distance and transportation cost to the commuters, the residential households, office going and other operating vehicles carrying both goods and passengers.

In order to assess the economic feasibility of the road, discriminant analysis approach has been applied (see methodology). It could be stated here that the objective of discriminant analysis is to derive linear combinations of discriminating variables, e.g., consumer's and producer's surplus, weighted appropriately to obtain the maximum statistical difference between two combinations of investment rates. In nut shell, the discriminant functions are linear combinations.

$$D_i = d_{i0} + d_{i1} X_1 + d_{i2} X_2 \dots + d_{in} X_n$$

Where,  $D_i$  is the discriminant analysis score,  
 $d_{ij}$  are the weight coefficients, and  
 $X_j$  are the standardized values of the  $n$  discriminating values.

The coefficients of discriminating variables, PS/C, CS/C and net agricultural value per hectare for various classified functions of investment rates have been given in Annexure 4 and from where the two sets of linear questions have been fitted.

### Computation of VAD

The value added (VAD) is defined as incremental agricultural value added in a year of full production. The estimated value of agricultural production within the influence zone of 25 villages during 1984 and 1985 is expected of Rs.246 lakhs and Rs.264 lakhs, respectively. But it can-not be assured that the incremental value added amounting to Rs.18 lakhs (because of the increased production) would be passing through this Link Road. However, it could be assumed that only 20 per cent of this production and a corresponding proportion of beneficiary population in the influence zone only would be passing through the Link Road. Thus, the incremental value added for agricultural production passing through the link road could be estimated at Rs.3.6 lakhs only.

### Savings in VOC

The saving in fuel consumption by distance reduction of the motorized vehicles passing through the Link Road minimises the vehicle operating cost (VOC), i.e., producer's surplus. It was very difficult to collect the exact information on privately owned motorized vehicles because the residential houses were not fully occupied. This constraint has also been felt even in the office complexes and shops too. But, this data constraint has been nearly removed by determining the number of vehicles of each kind operating in the influence zone of residen-

tial units, offices and shopping complexes based on the criteria of vehicles ownership in the city. Broadly, it could be assumed that 20 per cent of the middle income group and 90 per cent of the higher income group own some kind of vehicle. Further, since district centre would also be located in Jawahar Nagar II, it has been assumed that each office would own at least one jeep or one car. In order to ascertain heavy vehicles (trucks and goods carriers) public and private buses entering into or originating from the main city to Link Road, have been added.

The total savings in VOC has been estimated at Rs.330 per day or Rs.1,20,450 per annum. It has been the highest for cars Rs.150 per day, followed by two-wheelers Rs.100, for jeeps Rs.60 and for heavy vehicles Rs.20 (Table 14). It could be stated that these are the minimum amounts of savings based on the assumptions made above which could be expected from the project.

Table 14 SAVINGS IN VOC OF DIFFERENT KINDS OF VEHICLES

Sl. No.	Kinds of Vehicles	Savings in distance (kms.)	Savings in VOC (Rs. per day)
1.	Scooters/Motor Cycles	580	100
2.	Cars	220	150
3.	Jeeps	340	60
4.	Heavy Vehicles	85	20
TOTAL		1225	330

#### Computation of NVH

In order to estimate the net agricultural value per hectare (NVH) in the surrounding of 25 villages in the influence zone, the total value of agricultural produce has been divided by the total irrigated land areas in

hectares, for the period 1983-84. The total irrigated land area in the 25 surrounding villages of the influence zone was 4,630 hectares and the net value of agricultural produce for 1983-84 was Rs.246.78 lakh.\* Thus, the NVH comes to Rs.5,330. Again, since the table of discriminant functions for investment is based on dollar values instead of rupee value (Annexure 4), the value of NVH comes to 530 dollars, if multiplied by an average discriminating value of Rs.10 per dollar, the NVH could amount to Rs.5,300.

### Two Discriminant Functions

The two discriminant equations at the opportunity cost below or above the 16 per cent per annum are given below and their coefficients have been taken from Annexure 4.

$$S_1 = -113.85 + 172.31X + 342.84Y + .40Z \quad \dots(i)$$

$$S_2 = -489.54 + 607.38X + 957.72Y + 1.07Z \quad \dots(ii)$$

$S_1$  and  $S_2$  are the scores of the discriminant functions at the opportunity cost of less than 16 per cent and more than 16 per cent per annum, respectively.

$X$  = VAD/Cost of road construction,

$Y$  = VOC, Savings/Cost of road construction, and

$Z$  = NVH, net agricultural value per hectare

The feasibility of the project can be assessed if  $S_2 > S_1$  at the opportunity costs of 16 per cent. However, the similar equations can be fitted for the opportunity cost at the rate of 10 per cent, 12 per cent or 14 per cent by taking the given coefficients from Annexure 4.

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\* The total irrigated land area in Sri Ganganagar is 5.75 lakhs hectare and the estimated netvalue of agricultural production is Rs.30,650 lakhs (based on the data from the District Statistical Office and the District Census Hand Book).

In this case, the values of X, Y and Z are 0.1654, 0.0553 and 530 respectively derived by their respective formula of VAD/Cost, VOC Savings/Cost and NVH. The scores of  $S_1$  and  $S_2$  are 145.61 and 230.88, respectively indicating the feasibility of road construction, because  $S_2 > S_1$ . Therefore, it can definitely be argued that the economic feasibility of the Link Road is based on the opportunity cost of 16 per cent per annum. Besides being a public utility service as a vital issue between the influence zone and the main city, it would also provide a most feasible economic return.

### INTEGRATING PROJECTS UNDER COMPONENT 'B'

The Urban Improvement Trust has although undertaken various projects/schemes for upgrading services for the development of the town at its own resources, but, under component - B, two integrating projects Jawahar Nagar Phase I and Sukhadia Nagar have been undertaken by the UIT to supplement the projects under component 'A'.

#### JAWAHAR NAGAR PHASE I

Jawahar Nagar Phase I project is one of the two centrally sponsored projects making the people more beneficial by providing them access to the same kind of infrastructure and services to be enjoyed by the people of Jawahar Nagar Phase II. It was also a residential scheme which was conceived during the 1974-75, but the project was neither completed nor its construction could be accelerated for want of infrastructure and services. This scheme has now been revived by the UIT with an estimated expenditure of Rs.1.5 crores, of which, Rs.1 crore has already been spent. This residential scheme has also provisions of providing adequate community facilities and services, shopping centre (46 shops), health, schools, community centre, park etc. The major item of this scheme is the construction of a big children's park of the size of 400 x 450 ft.



## SUKHADIA NAGAR

This is a residential-cum-commercial project covering a land area of 50 acres situated adjacent to the Link Road. This scheme will have 322 houses and 247 shops, of which 36 are nearing completion. Most of the residential plots and shopping units have been disposed of. The total estimated cost of the project is Rs.50 lakh. The landuse pattern of the Sukhadia Nagar scheme consists of 48 per cent residential, 16.6 per cent commercial and office complex, 25.85 percent under road and pavements, 4.95 per cent under pavements and parking and 1.8 per cent institutional area.

## SHYAM NAGAR SLUM REHABILITATION SCHEME

This is a HUDCO financed scheme for upgrading the services like roads, drains and disposing of lands to the economically weaker sections of the town. The average rate of disposal of residential plots in this locality has been @ Rs.5 per sq. metre, while in some other localities, it was sold @ Rs.2 per sq. metre only. Total outlay of the scheme is Rs.46 lakhs. Besides, there are various other such schemes for providing sites and services to the slum dwellers in Ashok Nagar, Gandhi Nagar and Ravi Das Nagar. Total estimated cost of these schemes is Rs.20 lakhs. Under the slum improvement programme, laying down of a new road has been shown in Fig. 7.



**Fig. 7** Exhibits Laying down of a New Road in Ravidas Nagar under Slum Improvement Programme

**PART THREE**

**TRICHUR : AREA PROFILE**

**IDSMT PROJECT PROFILE**

**IMPLEMENTATION AND EVALUATION**



# 6 TRICHUR : AREA PROFILE

## LOCATION AND HISTORY

Trichur is one of the nine selected project towns of the state under integrated development of small and medium towns programme. It is situated on the National Highway No. 47 and at a distance of 30 kms. north of Cochin, 133 kms. West of Coimbatore, 144 kms. south of Calicut and 302 kms. from its state capital Trivandrum. The coastal area of Arabian sea is about 30 kms. from the town. Geographically, the town is situated between  $10^{\circ} 32'$  north latitude and  $76^{\circ} 15'$  east longitude which has almost a tropical climate. The temperature begins to increase after February. The average daily temperature varies generally and it is maximum in the month of April when mercury touches  $35^{\circ}$  to  $3^{\circ}\text{C}$ . The summer season is followed by the south-west monsoon from June to September. The average rainfall for the district as a whole is 3159 mm. per annum.

Historically the town derives its name from its vernacular form 'Thrissivaperur' which is related to the famous Siva (Vadakkunathan) Temple, traditionally believed to have been founded by Sage Parasurama. Trichur was also known by such names as 'Vrishabhadripuram' and 'Ten Kailasam' in ancient days. The town is built on a rising ground (hillock) crowned by the temple. The temple, one of the biggest and best endowed in the district, contains several sacred shrines and is surrounded by a thick masonry wall, with four lofty 'Gopurams'. In contrast to the antiquity of the temple, the recorded history of the town dates back to the 16th century, when the Maharaja of Cochin had his residence at Trichur. Trichur had been the scene of many historical events

including its capture and occupation by the Zamorin of Kozhikode during 1750-60, by Hyder Ali's General Sirdar Khan in 1750, and by Tippu Sultan in 1786. In 1774, the town and palace were fortified by mud walls and trenches, but these fortifications later fell in ruins. A detachment of the Madras infantry was stationed in Trichur from 1809 till 1900. Trichur town owns its present glory and importance to Sakthan Thampuran (1790-1805) who cleared the surrounding forests and encouraged merchants to settle down here. The Political Agents of the British Government had also their temporary headquarters in Trichur. From 1921, the affairs of the town are being controlled by Trichur Municipality.

The town has a very good network of communication linkages with roads and rails. During the early part of the 19th century, the town was connected by roads to its hinterland settlements. The Trichur-Coimbatore road was inaugurated in 1844. The rail service was also started from the very beginning of the 19th century and a narrow gauge railway line from Shornur to Ernakulam through Trichur was commissioned in 1902. This was later converted into broad gauge in 1944. Presently the town is directly connected by rail from New Delhi.

The present town, earlier to the reorganisation of the States in 1956, was a taluk headquarter and there after became the district headquarter, which is now an important educational, trade and commerce centre of the district having vast and rich hinterland with coconut, palm and paddy cultivation. The town's function can be fully assessed with reference to the hinterland or the region it serves. It is a collection and distribution centre and a hub of many economic activities of the hinterland region.

#### AREA AND POPULATION

The population of the town has shown its rising trend since 1901 but at a declining growth rate. It has grown from 15,585 in 1901 to 77,923 in 1981 accounting for an increase of 62,338 persons within a span of eighty years.

During the past forty years, the status of the town as per population remained Class II. The total area of the town is approximately 12.65 sq. kms. but the urban settlement has a linear pattern spread over the non-municipal area also. Table 1 gives the decennial growth rate of population in relation to both the urban population of the district and the State.

It is observed from Table 1 that the town had a share of more than 50 per cent of urban population of the district up to 1951, but since then, the proportion has declined and came down to 15.14 per cent in the year 1981. The growth rate of population from 1921 to 1981 has shown its declining trend.

Table 1 GROWTH OF POPULATION IN TRICHUR TOWN  
DURING 1901-81

Year	Population of Trichur Town	Percentage Increase	Percentage to the Urban population of the district	Percentage to the Urban population of the district
1901	15585	-	49.95	3.43
1911	23574	51.26	58.05	4.49
1921	27897	78.34	60.84	4.10
1931	45653	63.67	55.97	4.98
1941	57524	25.99	52.86	4.81
1951	69515	28.85	52.54	3.81
1961	73033	5.07	39.34	2.86
1971	76248	4.39	30.52	2.20
1981	77923	2.20	15.14	1.63

Source: Compiled from Census of India, Kerala Part II-A (1971) and Final Population of All-India 1981.

The town is densely populated with an overall density (within the municipal limits) of 6,160 persons per sq. km., as of 1981. A series of government decisions during the past decade have led to the location of many institutions of public importance including the Civil station and Civil Lines, the Engineering College, the All India Radio, the Veterinary College and Agricultural University, etc., around the town. The dispersal of these urban functions outside the town has led to the lesser growth rate within the municipal limits and pronounced urban growth in the outlying areas. The total population within the urban agglomeration of Trichur is 1,70,122 covering an area of 54.82 sq. km., as of 1981. It is in this context that a development plan for the town and its immediate environs has been evolved to provide the town new impetus for a sustained growth in future.

#### SEX-COMPOSITION AND FAMILY SIZE

The town has a population of 77,923 persons consisting of 37,540 males and 40,383 females living in 12,916 households with an average family size of 6.03 persons. The sex-ratio is favourable with 1075 females per 1000 males. The level of literacy is very high touching a figure of about 4 per cent during 1981. It shows a wide spread education. Table 2 gives the family size, sex composition, and the level of literacy in Trichur town.

#### OCCUPATIONAL STRUCTURE AND ECONOMIC BASE

Trichur town being the district headquarter had always its importance in the field of administration. It houses nearly 145 State Government, Autonomous and Local bodies offices and 47 offices of the Central Government within the town and its suburbs. It is also a major commercial and trading centre of the State. There are 25,335 registered retail shops in the town owned by the persons living in the municipal area and also from its rural hinterland. This substantiates that trading is one of the major economic functions of the town. A signi-

Table 2 SEX COMPOSITION, FAMILY SIZE AND LEVEL OF LITERACY, 1971-81

Year	No. of house- holds	Total popu- lation	Size of Family	Females per 1000 males	Percentage of literate persons in the town
1971	11408	76241	6.68	1042	76.17
1981	12916	77923	6.03	1075	83.90

**Source:** Compiled from D.C.H. Trichur 1971 and the Primary Census Abstract, 1981.

ficant proportion of population is engaged in tertiary sector of the towns economy which consists of trade and commerce, transport and communication and other services including government (Table 3). It is observed from Table 3 that during both the census decades the predominant function of the town was tertiary sector. The share of tertiary sector was 74 per cent, secondary 21 per cent and primary 4 per cent.

The town occupies its prominent place in the industrial economy, and due to good transport network a number of industrial establishments are functioning within outside the municipal area. Within the jurisdiction of local body, nearly 307 establishments of textile and engineering and other unclassified units of 8 major industry-groups are also functioning (Table 4). The main industrial estate at Ollur is located at a distance of about 6 kms. outside Trichur town and it houses about 42 industrial units. It reveals that in the economy of the town, the role of industrial activity is also quite significant.

#### INFRASTRUCTURE AND SERVICES

The population growth in the town has been very



Table 3 OCCUPATIONAL STRUCTURE OF TRICHUR  
DURING 1971-82

Occupation	1971			1981		
	Workers	Percentage of total workers	Percentage of total population	Workers	Percentage of total workers	Percentage of total population
Primary	798	4.22	1.05	884	4.18	1.13
Secondary	4,058	21.48	5.32	4,613	21.81	5.92
Tertiary	14,038	74.30	18.41	15,658	74.01	20.09
<b>TOTAL</b>	<b>76,894</b>	<b>100.00</b>	<b>24.78</b>	<b>21,154</b>	<b>100.00</b>	<b>27.14</b>
<b>Workers</b>						
<b>TOTAL</b>	<b>76,241</b>			<b>77,923</b>		
<b>Population</b>						

**Source:** (i) Census of Kerala (1971), D.C.H., Trichur.  
(ii) Office of the Director of Census,  
Trivandrum, Kerala, 1981.

moderate with a growth rate of 2.20 per cent during 1971-81 and a density of 6160 persons per sq. kms. Being the seat of district headquarter the spot density varies during the day time on account of workers commuting daily for work putting pressure on various facilities of the town. The concentration of trade and commerce activities in the town, particularly in the fringe and central areas demands more infrastructural facilities and services which are being provided by the municipality along with other district and State agencies/departments in the form of construction of roads, augmentation of water and power

Table 4 INDUSTRIAL ESTABLISHMENTS IN THE TOWN  
DURING 1973-83

Sl. No.	Industry Group	Number of Establishments	
		1973	1983
1.	Agro-based	7	24
2.	Animal Husbandry	2	2
3.	Textiles	-	9
4.	Forestry	17	19
5.	Chemicals	13	16
6.	Engineering	58	92
7.	Building Material, etc.	3	12
8.	Others	58	33
TOTAL		158	307

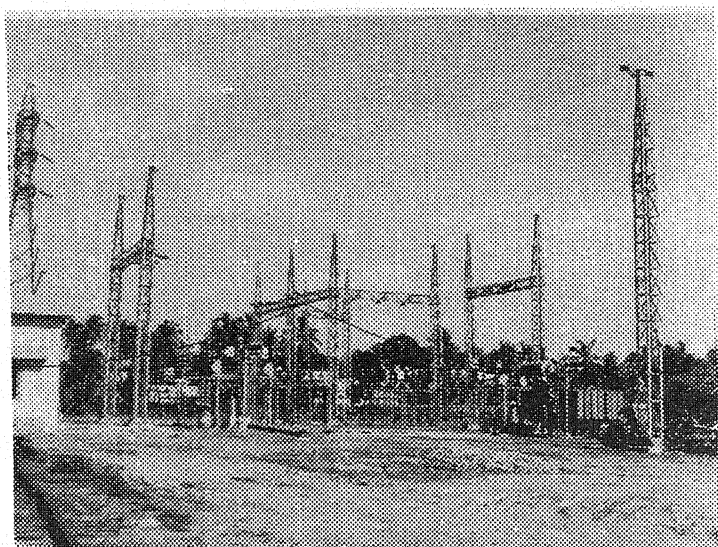
supply and better provision of medical and educational services.

#### Power

The town has a very efficient network of power supply. The municipal council has its own sub-station with 66 k.v. capacity. (Fig. 1). The electricity is received from State Electricity Board and distributed for different uses. There are 11,372 domestic connections, 5,796 commercial and 913 industrial connections in the town. The total daily consumption of electricity in the municipal area is 6.25 lakhs units.

#### Water Supply

The protected water supply in the municipal area is being provided by the municipal council which receives filtered water from the Peechin purification plant and the same is stored in the reservoirs for distribution.



**Fig. 1** Showing 66 kv Municipal power Sub-Station

The present storage capacity of the water supply plant is 16.5 million liters per day. The domestic consumption in the town is about 9.0 million litres daily. The municipal council has also extended water supply facilities to a few panchayats with 142 connections. The details of water connections and their daily consumption is given in Table 5.

**Table 5** PROTECTED WATER SUPPLY IN TRICHUR TOWN

Sl. No.	Category	No. of connection	Consumption per day
1.	Domestic Connections	5584	9.0 M.L.D.
2.	Non-domestic	3711	5.0 M.L.D.
3.	Public Taps	1272	2.5 M.L.D.

**Note** : MLD = Million Litres daily

**Source** : Public Health Engineer, Trichur.

### **Education**

The level of education and literacy rate is very high in the town and the later has increased by about 8 per cent during 1971-81. It occupies a prominent place not only in general education but in technical too. The town has at present four degree colleges and post graduate colleges having a total strength of about six thousand students. There are 3 technical and engineering institutions having an enrolment of more than a thousand students. Within municipal area, there are 20 primary and secondary schools with 25000 students on their rolls. All the colleges and most of the secondary schools are owned by the state government. Even outside the municipal area, the town has some educational institutions, such as , art college for women, medical college, veterinary and agricultural colleges which are located at a distance of 10 kms.

### **Medical Facilities**

The medical facilities in the town are provided by the state government, municipal council and some private charitable institutions. There are five major government hospitals with a total capacity of 1160 beds manned by 85 doctors and assisted by 193 midwives and nurses. There are also 4 municipal owned dispensaries. Besides, there is also one maternity hospital with a capacity of 240 beds manned by 30 doctors and 20 nurses. This reveals that the medical facilities are quite satisfactory at present.

### **Communication**

The post and telegraph facilities are available in the town with one head post office and 14 sub-post offices. The frequency of postal delivery is 3 times a day. There is also one central telegraph office with 6 sub-offices in the town. The town has also about 5,757 telephone connections.

### **Transport Network**

The town is well connected by rail and road and other

means of communication which have been instrumental in making Trichur as one of the important industrial, banking and commercial centres of Kerala. The Kerala State Transport corporation has its widespread transport network with its district office located in the town. Since town is situated in the centre of the State, the buses ply through the town in both the direction, i.e., towards north and south. Neraly 182 buses ply towards north and 193 towards south touching the town round the clock. In the northern direction, it is linked to Palghat and Kozhikode and in southern direction to Trivandrum and Ernakulam. There are about 80 KSRTC buses starting from Trichur depot which serve the town and its suburbs, while passing through the town. The private owned 150 mini buses also play a relatively important role in city conveyance.

The main mode of transport within the city and its vicinity is auto-rikshaw and there are, at present, 1600 autorikshaws plying on road running in the town.

#### EXISTING PROBLEMS

Due to the concentration of business activity in the central area, heavy congestion and deterioration of service and facilities have been noticed. The town has symptoms of uncontrolled growth in the outskirts and a low residential density in the fringe. At present, nearly 70 per cent of the total developed area of the town is under residential use. By providing better facilities in the fringe, the density of the town could be reduced. As mentioned earlier, the central area, particularly at Swaraj Round and municipal office, there are a number of shops and clusters by the side of road obstructing the smooth flow of traffice both vehicular and pedestrians. Due to non-availability of a proper parking facility for local private buses and other vehicles, the municipal council has allowed to park such vehicles near Jaihind market adjacent to municipal office. It has become a potential source of accident; therefore provision of a sub-way and removal of parking site is the immediate need

to the safe crossing of pedestrians.

The effective width of most of the arterial and other important roads in the town is reduced by haphazard ribbon development (of unauthorised construction) on both sides of the road. These require proper attention of the authorities to arrest undesirable growth creating problems of traffic hazard both on road and on footpaths. Although the municipal authority is looking after all these problems to some extent, it needs more disciplined and continuous vigilant action.

#### DEVELOPMENT AUTHORITIES

There are two local development authorities functioning in the town: one is Municipal Council and the other is Trichur Urban Development Authority started in 1981 to take care of the development functions in and outside the municipal area. A brief description of these two bodies is being given below.

##### **Trichur Municipal Council**

Prior to the constitution of the Municipality, there was a Sanitary Board which functioned since 1910, and thereafter, the Town Council came in 1911 for the conservancy and sanitary improvement of the town. But later on due to the growth of population and the growing civic needs to provide basic services more effectively, the Trichur Municipality was constituted in 1921 under the Cochin Government Municipal Regulation. For the purpose of civic administration, a 32 member council is elected by the citizens of the municipal area for a term of three years. An elected seven member standing committee headed by the Chairman looks after the administration of municipal affairs. The municipal commissioner is a full time chief executive officer appointed by the Government. He is assisted by officers of various wings such as Public works department, electricity, health, revenue and general administration.

### Objectives and Function

The municipal council is one of the important urban local bodies committed to the social and economic welfare of its citizen by promoting civic services and amenities. In addition to its primary function such as street lighting, public health, the council has also undertaken various large scale development works like acquisition and development of land, construction, of markets, stadium, etc. (Fig. 2). The development projects which are being financed under the integrated development programme have been included within the broader framework of the development plan of the town. The municipal council is also maintaining a power sub-station of 66 k.v. capacity for proper of electricity supply within the municipal area although the electricity is being taken from the Kerala State Electricity Board.

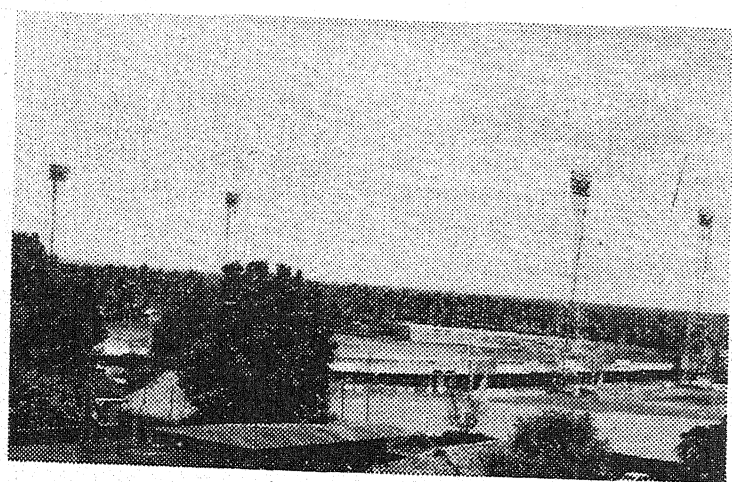


Fig. 2 A View of Newly Constructed Stadium (1982)  
financed by Municipal funds

### Municipal Finances

An important aspect of the local body is its financial structure. The more it is sound, the more it would enable the local body to implement all its improvement plans, Table 6 gives the pattern of income and expendi-

Table 6 STATEMENT SHOWING THE INCOME FROM VARIOUS SOURCES 1978-79 TO 1982-83

(Amount Rs. in lakhs)						
Sl. No.	Income Heads/	1978-79	79-80	80-81	81-82	82-83
No. Year						
1.	Municipal taxes and rates	72.79 (45.44)	73.70 (53.70)	84.43 (47.89)	84.92 (70.50)	102.66 (56.57)
2.	Realisation under special Acts	0.06 (0.04)	0.07 (0.05)	0.10 (0.06)	0.04 (0.03)	0.15 (0.08)
3.	Revenue derived from municipal properties	17.43 (10.88)	19.54 (14.29)	22.34 (12.67)	62.67 (18.82)	25.24 (13.51)
4.	Municipal fees	1.99 (1.24)	2.04 (1.49)	3.58 (2.03)	3.96 (3.29)	4.63 (2.55)
5.	Government grants and fees	7.08 (4.42)	9.10 (6.66)	11.32 (6.42)	2.16 (1.79)	9.05 (2.55)
6.	Miscellaneous	2.84 (1.77)	2.55 (1.87)	4.33 (2.46)	6.71 (5.57)	3.80 (2.09)
7.	(Total 1 to 6)	102.19 (63.79)	106.71 (78.6)	126.10 (71.53)	120.46 (100.00)	145.53 (80.19)
8.	Loans	58.00 (36.21)	3.00 (21.94)	50.20 (28.47)	- (-)	35.95 (19.91)
GRAND TOTAL (7+8)						
		160.19 (100.00)	136.71 (100.00)	176.30 (100.00)	120.46 (100.00)	181.48 (100.00)

**Note:** Figures within brackets are the percentage distribution of the various components of the total earning.



ture of this municipal council, Trichur during the last five years. It is observed from the table, that the main source of income of the municipal council in all the years has been municipal taxes and rates which contributed nearly 45 to 70 per cent of the total income. In addition to the property taxes, the council also owned various other assets in the form of markets and shops, rest house, stadium, etc., which gave about 10 to 18 per cent of the income during the years. In the process of developing town economy, the loan also plays a significant role in increasing and supplementing the income of the municipality to implement planned development. The share of such loans during 1978-79 was about 36 per cent of the total income.

The expenditure pattern of any municipality is an indicator of its development activities. Table 7 gives the pattern of expenditure on its various heads and other developmental activities like the development of infrastructural facilities and civic amenities in the form of water supply and drainage, public health, maintenance and construction of roads, etc. During the financial year 1982-83, nearly 42.46 per cent of the total expenditure was incurred on these three components. This trend has also been noticed in all the preceding years. The overall percentage increase of total expenditure during the last five years was about 50.84 per cent with an average annual growth of 5.09 per cent.

Looking at the pattern of income and expenditure during 1978-83, it is found that the total income is more than the expenditure indicating a very sound financial position of the municipal council. The council can cope up with the increasing public demand for services and facilities.

### **Trichur Urban Development Authority**

The population living in the town some times changes its settlement pattern and creates numerous development problems. In such cases, the development activities beyond the municipal jurisdiction also need proper attention in order to achieve planned growth and systematic

Table 7 EXPENDITURE PATTERN OF MUNICIPAL  
COUNCIL TRICHUR

(Amount in Rs. lakhs)						
Sl. No.	Expenditure/ Year	1978-79	79-80	80-81	81-82	82-83
1.	Management	14.19 (13.28)	15.63 (13.59)	15.80 (9.94)	17.43 (10.77)	18.67 (11.45)
2.	Maintenance and improvement of road, bridge and culverts	4.87 (4.56)	7.05 (6.13)	6.65 (4.18)	28.57 (17.65)	16.75 (10.27)
3.	Maintenance & construction of building & Markets	8.96 (8.39)	13.32 (11.59)	1.89 (1.19)	9.06 (5.60)	9.62 (5.90)
4.	Land Acquisition	4.34 (4.06)	- -	21.90 (13.78)	-	6.00 (3.68)
5.	Water-Supply and drainages	56.54 (52.93)	56.63 (49.26)	14.33 (9.02)	19.54 (12.07)	21.51 (13.19)
6.	Education	-	3.27 (2.84)	0.16 (.10)	1.53 (0.95)	0.23 (0.13)
7.	Public Health	-	3.3 (2.64)	28.19 (17.74)	34.49 (21.30)	31.00 (19.00)
8.	Lighting	-	2.83 (2.46)	46.02 (28.96)	13.16 (8.13)	6.30 (3.86)
9.	Miscellaneous	17.92 (16.78)	13.21 (11.49)	23.97 (15.8)	38.02 (23.48)	53.04 (32.52)
-----						
TOTAL (1 to 9)		106.82 (100.00)	114.97 (100.00)	158.93 (100.00)	161.90 (100.00)	163.12 (100.00)
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Note: Figures within brackets denote percentages to total expenditure.

development of the town. In the case of Trichur as discussed earlier, the municipal council is looking after various civic and development aspects of the town which fall within the municipal area, but to look after the development activities outside the municipal limits, the town has a Trichur Urban Development Authority which came into existence in August 1981. The Authority has a constituted Board headed by the collector and secretary as its ex-officio chairman and various other members from the local and state government departments of the town and a few members from the municipal council.

The Authority has taken up planning and the preparation of detailed town planning schemes within the framework of the master plan for the development of some of the areas within the municipal limit and outside in six sub-urban panchayats, viz. Ollur, Nadattara, Ollukara, Vilvatta, Ayyendar and Koorchayar covering an area of approximately 123.22 sq.kms. Since it is a newly constituted body, the financial resources at this stage are confined only to the aid received from the government. The Authority has started its functions with a seed capital of Rs. 4 lakh during 1981-82.

# 7. IDSMT PROJECT PROFILE

## PLANNING STRATEGY

Under the development plan Trichur Town is expected to retain its role as an administrative headquarters and as a focal commercial node of Trichur district. For the fulfilment of this role, the town and its adjoining areas have been proposed to be developed. The main objectives of the planning strategy are therefore directed to the optimum utilisation of urban land and minimisation of the cost on public utilities, services and amenities conceived in the development plan which envisages a population of 1.75 lakh and an area of 7978 acres by 1991. To achieve these objectives the planning strategy is designed:

- (i) to encourage compact growth through intensive development in the large buildable spaces within the urban area and thereby achieving an increased population density;
- (ii) to check uncontrolled growth of the fringe areas and to promote organised and integrated development;
- (iii) to achieve a balance among the various land uses;
- (iv) to provide commercial, civic and administrative centres at convenient locations for the community;
- (v) to outline a functional circulation system that will effectively link the various parts of the

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Adapted from the Report of Trichur Integrated Development Programme, 1979-83 prepared by the Department of Town Planning, Kerala.

town and its environs;

- (vi) to arrest the deterioration of facilities and services within the central area; and
- (vii) to guide new growth into those areas where the existing facilities are under-utilised and where new services could be provided at minimum cost.

Based on this proposed strategy, the projected land use pattern for the town given in Table 1 sets out the pace of qualitative and quantitative aspects of development as well as the role of public sector in the total development.

Table 1 PROPOSED LAND USE PATTERN BY 1991  
AS PER THE DEVELOPMENT PLAN

Sl. No.	Land Use	Area in Acres	Percentage of developed area
1.	Residential	4598.43	68.60
2.	Commercial	152.41	2.28
3.	Industrial	384.16	5.73
4.	Public & Semi-Public	653.90	10.24
5.	Parks & Open Spaces	272.00	4.03
6.	Roads	542.25	8.15
7.	Railways	64.52	0.97
<hr/>			
Total Development Area:		6667.67	100.00
<hr/>			
8.	Wet Lands:		
	(a) Paddy fields	1153.26	
	(b) Water Course	157.56	
		<hr/>	
		7978.49	
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## STATUS OF THE MASTER PLAN

The development plan for the town, prepared in 1972 has been approved by the government. Within the framework of the Master Plan, detailed development schemes have been taken up by the municipality for 9 areas and these schemes have been included under the programme of "integrated development of small and medium towns."

The projects identified under the IDSMT programme are mainly based on the following objectives:

- (i) to provide for the gaps and inadequacies in infrastructure and services in the town;
- (ii) to generate employment, and
- (iii) to provide facilities for the benefit of agricultural and rural development in the hinterland.

That is why, the schemes include land acquisition and development for housing colonies, roads, commercial areas industries, etc., and the provision of water supply, electricity, parks and open spaces, taxi stands, etc. But terminals and the development of mandis/markets have also been included. The schemes have been identified in such a way that they facilitate area development and also provide a face lift to the town.

The projects proposed under IDSMT programme for financial assistance are part of the Detailed Development Plan formulated for the town and these projects have been dovetailed to fit in the overall development of the town as envisaged in the Master Plan. The operation and maintenance of the assets and facilities proposed to be created would be undertaken by the agencies responsible for the implementation of the projects. The implementation of the programme will be co-ordinated by the respective Local Bodies/Development Authorities, and the Department of Town Planning would provide the necessary technical assistance. A brief description of the projects identified for the central assistance is given below.

## RESIDENTIAL DEVELOPMENT AT ERATTACHIRA

Two sites having a total land of 2.70 hectares have been proposed for residential development. Out of these two sites, one site with an area of 1.86 hectares has already been acquired by the municipality at a cost of Rs.9.52 lakh. This site is proposed to be developed during the year by filling and levelling the low lying areas. This would involve a total expenditure of Rs. 5.58 lakh. The acquisition and development cost of the second site would be Rs. 8.4 lakh and Rs. 2.52 lakh, respectively. These two housing schemes would provide accommodation to 100 families including 50 EWS and 24 LIG.

## RESIDENTIAL DEVELOPMENT AT RING ROAD EAST

This residential site has been selected on the side of the proposed Ring Road East. The site is on the fringe of the thickly built up commercial area, the core of the city. This would provide housing accommodation to 88 families including 44 EWS and 24 LIG. A land area of 1.8 hectares is proposed to be acquired during the year at an estimated cost of Rs. 10.8 lakh. Land development which is proposed to be taken up during the next year would involve an expenditure of Rs. 5.40 lakh.

## RESIDENTIAL DEVELOPMENT AT SHORNUR ROAD

This scheme has also been proposed at the outer boundary of the core area on the proposed bye-pass to Shornur Road with an intention to provide housing accommodation to the working population in the CBD (Central Business District). A land area of 0.86 hectare is proposed to be acquired during 1980-81 at a cost of Rs. 4.8 lakh. The development of land at a cost of Rs. 2.58 lakh would be taken up during 1981-82. The scheme has envisaged to provide residential accommodation to 42 families comprising of 21 EWS, 12 LIG, 5 MIG and 4 HIG.

## ERNAKULAM BYE-PASS ROAD (25 METRE) AT ERATTACHIRA

The construction of this bye-pass road would reduce the current traffic congestion on the Ernakulam Road and provide an easy access to the centre. An area of 1.3 hectares of land has already been acquired at a cost of Rs. 7.65 lakh for the construction of this road. In addition to this, for widening of Pattalam Road at Thekkinkadu, an area of 1.55 hectares of land is proposed to be acquired at a cost of Rs.2.5 lakh. The cost of road construction for these two schemes would be Rs.4. lakh.

## SHORNUR ROAD BYE-PASS (25 METRE)

This is a part of the bye-pass road proposed to be constructed parallel to the existing Shornur Road. The existing Shornur road is too narrow and inadequate to meet the increased volume of traffic. The proposed bye-pass road would facilitate to reduce the volume of traffic on the existing road. Land required, for the construction of this stretch of road north of Vadakkechira is proposed to be taken up during 1980-81 at a cost of Rs. 2.8 lakh. Another stretch of the bye-pass road proposed to be constructed through the Davaswom Compound parallel to the Shornur Road, will be taken up during 1981-82 and involve an expenditure of Rs.1.2 lakh.

## ROAD LINKING CHETTIANGADI AND RING ROAD EAST (25 METRE)

This new road is proposed to provide direct access from the area around the Trichur Railway Station and KSRTC Bus Stand to the commercial complex and market centre at Erattachira. For the construction of road, one hectare of land has already been acquired and another 1.6 hectares is proposed to be acquired. Construction of road on the land already acquired would involve an expenditure of Rs.2.0 lakh and it is proposed to be taken up during 1981-82. Land acquisition and construction of road in the remaining portion would involve an expendi-



ture of Rs. 20.20 lakh and it is also proposed to be taken up during 1981-82.

#### CONSTRUCTION OF NON-VEGETARIAN FISH MARKET AT ERATTACHIRA WITH WHOLESALE AND RETAIL FACILITIES

Trichur town is an important fish trading centre in the district. At present, there is no organised fish market in the town. Therefore an organised fish market has been proposed in the detailed town planning scheme for Erattachira. An area of 0.88 hectare of land has already been acquired by the municipality for this scheme and plans have been prepared and proposed to be implemented at an estimated cost of Rs.23 lakh during this year. Since this is an important scheme which has a direct bearing on the economic condition of the fishermen community in the coastal areas of the district, this scheme is proposed to be implemented on a priority basis.

Formation of service road in the fish market area is an essential component of this scheme. For the construction of 12 metre wide road in the scheme, a land to the extent of 0.37 hectare, has already been acquired by the municipal council. The construction of road at an estimated cost of Rs.1 lakh is proposed to be taken up by the municipal council during 1980-81. Transportation of fish from the coastal areas to the proposed market complex and from the market complex to the sub-markets in hinter land is being done mostly by lorries. Therefore idle parking lot for lorries has been proposed adjacent to the fish market. A land area of 0.14 hectare has been acquired by the municipality for this purpose. The construction of parking lot is proposed to be taken up during the year with the central assistance at an estimated cost of Rs. 0.50 lakh.

#### PROJECTS FOR STATE ASSISTANCE RING ROAD EAST (MISSING LINK)

This is a missing link in the ring road skirting the core area. This road will directly link up the eastern

part of the town to the Erattachira Market area. An area of 220 hectares of land is proposed to be acquired at a cost of Rs.13.2 lakh during 1980-81 for the construction of this road section. The road construction would involve an expenditure of Rs.5.00 lakh and proposed to be taken up during the next year.

#### DEVELOPMENT OF SUB-CENTRE AT ERATTACHIRA

Development of sub-centre at Erattachira comprises of the construction of a mofussil bus stand, a taxi stand, a service station, automobile spare parts centre and shopping centre. The bus stand is proposed to provide terminal facilities to south bound buses. This bus stand has been proposed in the Erattachira and forms a part of detailed town planning scheme of the area. A land area of 1.59 hectares has already been acquired for this purpose and proposed to be developed during 1980-81 at an estimated cost of Rs.4.5 lakh. Construction of bus stand would involve an expenditure of Rs.10 lakh and proposed to be taken up during the next year.

For the construction of taxi stand service station and shopping centre, an area of 1.54 hectares has already been acquired. Land development is proposed to be taken up during 1980-81 at an estimated cost of Rs.6.00 lakh.

#### CONSTRUCTION OF A TAXI STAND AND PARK (NORTH OF ERATTACHIRA RING ROAD)

Another taxi stand is proposed near the (proposed) hotel and cinema site adjacent to the park. A land area of 0.11 hectare has already been acquired for this purpose. The development work is proposed to be taken up during 1980-81 at a cost of Rs.1.00 lakh. In addition to this, one park has also been proposed in the area in close proximity to the bus stand market centre, shopping complexes, housing colonies, etc., in the proposed schemes. For this purpose, an extent of 0.58 hectare of land is proposed to be developed.

## LAND ACQUISITION AND DEVELOPMENT FOR PARKING LOT

In close proximity to the stadium, swimming pool and housing colony a parking lot has been proposed under the Shornur Road detailed town planning scheme. For this purpose an extent of 0.75 hectare of land is proposed to be acquired during 1980-81 at an estimated cost of Rs.4.5 lakh. Construction of the parking lot is proposed to be taken up in the subsequent year at a cost of Rs.2.00 lakh.

## SWIMMING POOL AT SHORNUR ROAD AND SCHEME AREA

Alongwith the development of commercial and residential complexes, recreational facilities have also been proposed in the Shornur Road under the detailed town planning scheme. One such recreation facility proposed to be provided is the construction of a swimming pool on the western side of the stadium. For this purpose, land would be acquired during 1980-81 at an estimated cost of Rs. 10.8 lakh. The construction of the swimming pool is proposed to be taken up in the subsequent year at a cost of Rs.5.00 lakh.

## REHABILITATION SCHEME AT ERATTACHIRA

This scheme is proposed to be taken up during 1980-81 to rehabilitate the families affected by the acquisition of land for the Erattachira Town Planning Scheme. An extent of 0.4 hectare of land has already been acquired for this scheme and it is proposed to be developed during 1980-81 with an estimated cost of Rs.1 lakh.

COMMERCIAL DEVELOPMENT AT SHORNUR ROAD SCHEME  
(SOUTH OF BUS STAND)

In order to arrest further concentration of commercial activities in the area around Swaraj Round at present and to provide commercial facilities at the peripheral areas also, two commercial sites have been chosen

on Shornur Road which form a part of the detailed town planning scheme. For the commercial complex proposed on the southern side of the bus stand, a land area to the extent of 0.76 hectare has been acquired. Construction of the building is proposed to be taken up during 1980-81 at an estimated cost of Rs.33 lakh.

#### LAND ACQUISITION AND DEVELOPMENT FOR COMMERCIAL AREA AT THE SHORNUR ROAD SCHEME (WEST OF BUS STAND)

This is another site proposed for commercial development in the Shornur Road Scheme. An extent of 0.46 hectare of land is proposed to be acquired during 1980-81 at a cost of Rs. 2.76 lakh. Land Development would involve an expenditure of Rs. 1.38 lakh which is proposed to be taken up during the next year.

#### COMMERCIAL DEVELOPMENT AT ERATTACHIRA

Like the Shornur Road commercial schemes, this scheme is also intended to decentralise the commercial activities from the inner core area. A hotel and a cinema house have been proposed in this scheme. An extent of 0.95 hectare of land has already been acquired for this scheme. Land development is proposed to be taken up during 1980-81 at an estimated cost of Rs.2.1 lakh.

#### LAND ACQUISITION AND DEVELOPMENT FOR INDUSTRIES AT POOTHOLE

According to the detailed town planning scheme for the Poothole area, a land to the extent of 7 hectares has been earmarked for industrial purposes. Out of which, 4 hectares of land would involve an expenditure of Rs.20 lakh, and the remaining 3 hectares Rs.15 lakh. The development of land is proposed to be taken up during the next year at an estimated cost of Rs.14 lakh.

The proposed site is very close to the Trichur Railway Station and therefore construction of a Railway siding to this site would be economical. Moreover, the

site is almost vacant and hence land acquisition cost would be less.

#### SCHEMES TO BE FINANCED BY MUNICIPAL COUNCIL

As mentioned in the earlier part of this report, recreational facilities such as a stadium and swimming pool have been proposed in the scheme to be financed by the state government. The construction of the stadium undertaken by the municipal council is in progress. During 1980-81 and 1981-82, it is proposed to complete the construction of pavilion with a provision of flood lights in the stadium. These schemes are proposed to be taken up with the municipal funds.

## 8 IMPLEMENTATION AND EVALUATION

Initially IDSMT programme under-component 'A' conceived nine projects. But, owing largely to the legal constraints, only seven projects could be undertaken, see Chapter 9. Further, the two projects, namely, Residential Development at Erattachira and Rehabilitation of Commercial Area at Erattachira did not find place because residential and rehabilitation schemes were dropped for the time being (Fig. 1).



**Fig. 1** Showing Development of Residential Land at Erattachira by Filling and Levelling

## PROJECTS UNDER COMPONENT 'A'

## PROJECT 1: NON-VEGETARIAN MARKET

Trichur is an important fish trading centre and contributes about 7 per cent to the net domestic product of the state. Chiefly, fishes are caught and brought from the Arabian sea beach which is 25 kms. from the town. Both primary and secondary sectors contribute about 8 per cent to the state's economy, while tertiary sector about 10 per cent (Table 1). It is very interesting to note that while the proportions of the respective products in Trichur have remained unaltered or changed marginally, the absolute growth in the activities has increased very rapidly during 1971-81. The value added in fishing increased by 27 per cent per annum but the share of primary sector by 132 per cent, secondary sector by 18 per cent and tertiary sector by 17 per cent. Thus, it is the fishing which has witnessed fabulous increase in activities as compared to all other activities.

In spite of being the main fish marketing centre with booming fish trade, the town has been lacking an organised fish market. Presently, there are two congested non-vegetarian markets: one at Erattachira and the other one congested meat market at East Fort. Out of 51 shops, 45 (about 88 per cent) are located at Erattachira alone (Table 2).

Earlier, there were few fish shops in Jai Hind Market which have been shifted to the Erattachira. Jai Hind market is now becoming a new multi-pronged shopping complex developed by the Municipality's own resources. But, still one shop has not been shifted because of legal dispute between the municipality and the shopkeeper (see Chapter 9).

State's department of town planning originally prepared a plan for an organised fish market to be located in the Erattachira area under the centrally sponsored IDSMT programme. As a result, the fish market has now been renamed as Non-Vegetarian Market since the complex has many shops other than fish also. Since the

Table 1 NET DOMESTIC PRODUCT OF TRICHUR AND KERALA  
DURING 1971 AND 1981 (At Current Prices)

Item/Sector	(Rs. in lakhs)			
	Trichur		Kerala	
	1971	1981	1971	1981
Fishing	151 (6.93)	5.67 (7.25)	2192	7927
Primary Sector	5165 (8.33)	11985 (8.18)	62030	146549
Secondary Sector	2155 (10.52)	6085 (8.28)	20481	73455
Tertiary Sector	3879 (10.49)	10644 (9.55)	37311	111417
NDP (Factor Cost)	11199 (9.35)	28714 (8.66)	119822	331421

**Note:** Figures in parentheses denote percentage of State's income.

**Source:** Compiled from Economic Review, State Planning Board, Trivandrum (1982).

Table 2 NON-VEGETARIAN SHOPS IN TRICHUR

Items	Erattachira	East Port	Total
Fresh Fish	27	-	27
Dry Fish	12	-	12
Meat (a) Goat	6	1	7
(b) Pig	-	2	2
(c) Cow	-	3	3
<b>TOTAL</b>	<b>45</b>	<b>6</b>	<b>51</b>



very inception of the IDSMT scheme, the non-vegetarian market has been proposed to be implemented on a priority basis because it would have: (i) a direct bearing on the economic condition of the fishermen community in the coastal areas, and (ii) it would primarily boost the fishing trade.

### **Project Design**

The word 'Erattachira' is a compound word of 'eratta' means double and 'chira' means tank. Earlier there was a huge tank and even after its development, most of it is a low-lying area. Still there are symptoms of the existence of tank water. Erattachira is located at a distance of 0.5 km. in the south-east of Trichur municipal council and it is adjacent to the present fish and vegetable market (for location and project sites see Fig. 2).

The Non-Vegetarian Market basically contains three integrated projects: (i) construction of Non-vegetarian Market (Project 1), (ii) construction of Service Road (Project 2), and (iii) construction of Parking Lot for Lorries (Project 3). However, the first and second are essentially the two aspects of the same project. The third one is a scheme to shift the existing lorry parking site from the Thekinkad Maidan.

### **Construction of Non-vegetarian Market at Erattachira**

Kerala State Construction Corporation Limited (KSCCL) is an organisation which has been authorised the task of constructing the market. A total land area of 0.88 hectares had already been allotted for the purpose by the Trichur Municipal Council (TMC). It is significant to note here that a sizable-chunk of 25 acres of land was purchased by the TMC long back. Therefore, there was no investment on land acquisition nor on land development. The project management, TMC, had to construct basically shops and provide community facilities in the market complex. The construction work started in January 1983 and was scheduled to be completed by December 1984, i.e., within a period of two years. But upto February 15, 1984, a sum of Rs.19,44,442 was spent and 70 per cent of

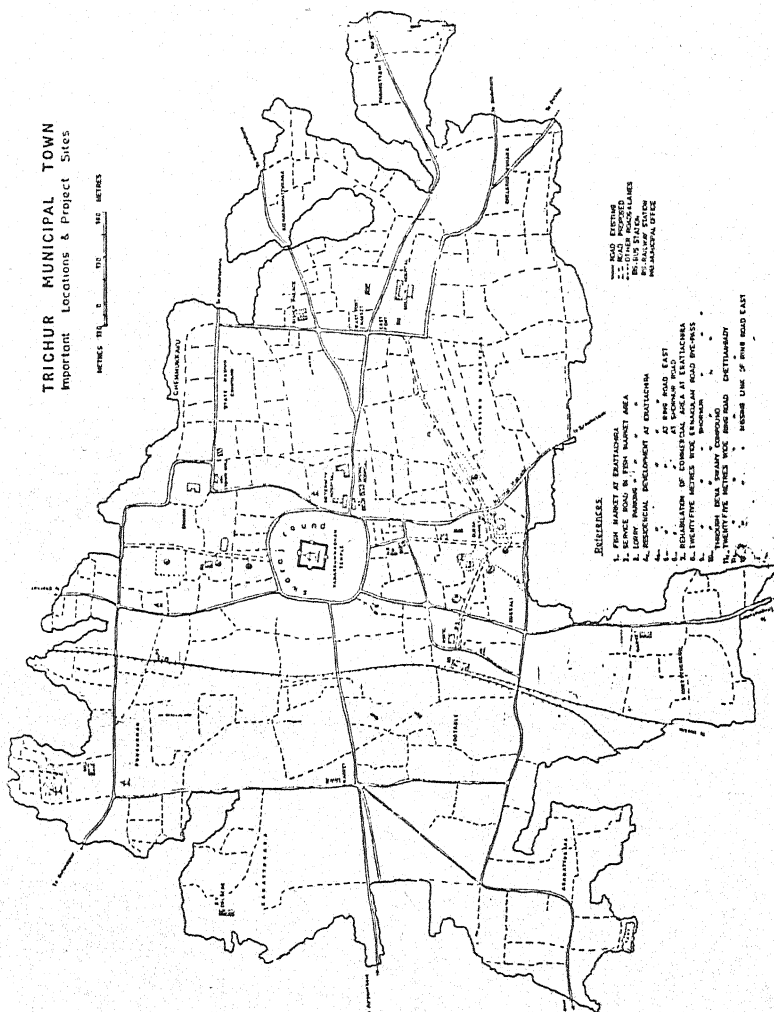
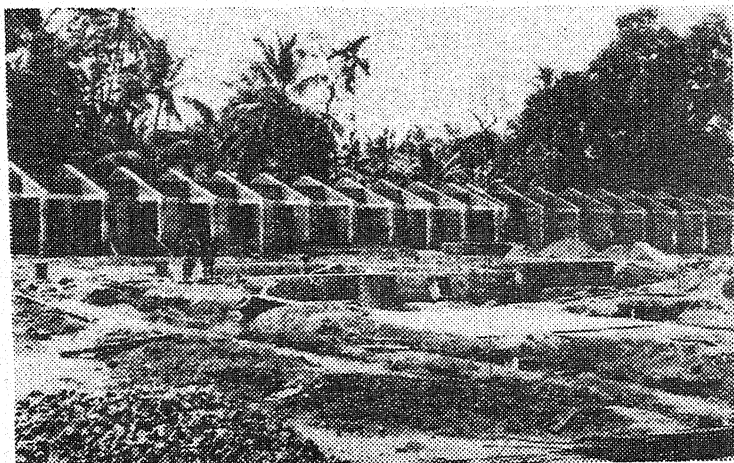


Fig. 2

the work was completed. Of this expenditure, 50 per cent (i.e., Rs.9,72,221) was released by the central government.

The authority (TMC) expects that the whole project work will be completed before the time schedule. A view of the work in progress could be seen from the Fig. 3.



**Fig. 3** Showing View of the Non-Vegetarian Market under construction

The structure of non-vegetarian market consists of 116 shops of different sizes and for different items. Classification of these shops is being given in Table 3.

It appears from the table that about 88 per cent of shops are earmarked for the fishes only. Of this 36 per cent would be allocated to dry fish traders. In extremely south of the market, on the left side perpendicular (west) to the above row, 19 dry fish shops are located. About 65 shops of raw fish form three sectors, viz.: (i) 11 shops are in a continuous row to the wholesale meat shops, (ii) 20 shops form a row on extremely north-wing, (iii) 10 shops are perpendicular to (iv), on the east of which, first three are in the north-east, and (v) 24 shops form a row in the centre of the market. There are also 18 wholesale shops of two different sizes (6 of 9 x 10.81 sq. metre and 12 of 4.5 x 10.81 sq. metre) which

Table 3 NUMBER CLASSIFICATION OF SHOPS BY  
SIZE-RANGE OF FLOOR SPACE

Sl. No.	Shops Classification	Floor Area (sq. meter)	Number
1.	Dry Fish Retail Shops	5.6 x 2.8	19
2.	Wholesale Meat Shops	3.25 x 2.8	14
3.	Raw Fish Retail Shops	3.25 x 2.8	65
4.	Dry Fish Wholesale Shops	9 x 10.81	6
5.	Dry Fish Wholesale Shops	4.5 x 10.81	12
TOTAL		2184 x 30*	116

\*It is the total floor area of 116 shops.

are situated in-between 24-row fish retail shops and 19 dry fish retail shops. The Erattachira market complex including service road and parking lot for lorries along-with shops and other construction have been presented pictographically in Fig. 4.

The market complex would contain closed varandah with framed nets for all the shops. This would also have one big auction platform of 910 sq. metres having a provision of a cold storage in one corner. The complex would also have community facilities like lavatories--3 for males and 2 for females, development of pavement and parking for cars and cycles. The land-use of the non-vegetarian market-complex has been given in Table 4.

The land-use data indicates that about one-fourth of the total land would be directly under possession of shopkeepers and about 10 per cent to be used for the auction purposes. Paved area would be nearly equivalent to the total shop area. The community lavatories would cover 8.6 per cent and the two parking sites about 5.2 per cent of the total land area.

## NON-VEGETARIAN MARKET AT ERATTACHIRA — TRICHUR

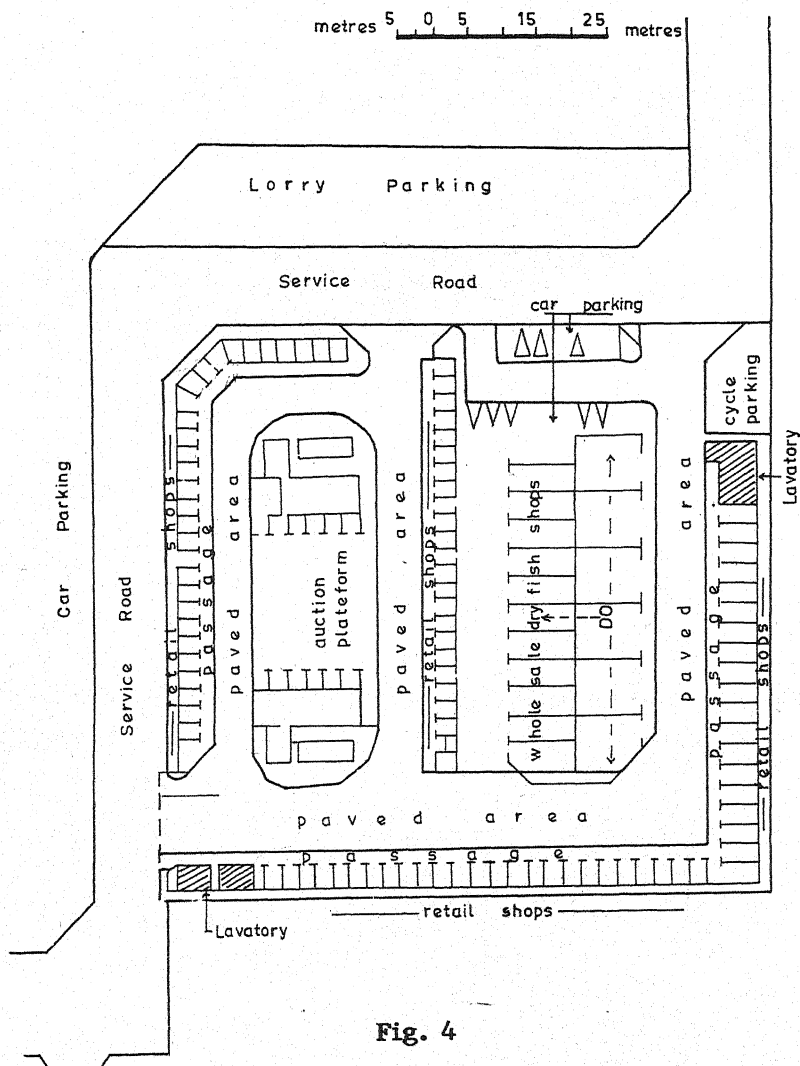


Fig. 4

### Labour and Wages

It is a known fact that labour is very scarce factor to be had in the State of Kerala because of its migration to the Gulf countries. As a result, the demand for labour is rising, while supply of labour is declining.

Table 4 LAND USE AT ERATTACHIRA MARKET

Sl. No.	Heads	Area (sq. metre)	Percentage to total Area
1.	(a) Floor Area of Shops	2184	24.82
	(b) Shop Area including Verandah	3446	39.16
2.	Auction Platform	910	10.34
3.	Pavement	3224	36.64
4.	Lavatories	760	8.64
5.	Car Parking	300	3.40
6.	Cycle Stand	160	1.82
	TOTAL	8800	100.00

Consequently, labour cost is also very high, and in fact it is becoming higher and higher. On the other hand development activities are insecure because of: (i) the greater mobility of labourers, and (ii) their emergence as an organised labour force due to the predominance of mazdoor unions. Even the unskilled labour is very dear in whole of the state. The daily wages of unskilled male and female are Rs.25 and Rs.22 respectively, while those of skilled labour, not less than Rs.35 per day.

In spite of the construction work being executed by Kerala State Construction Corporation Limited (KSCCL), there is no regular employment for labour. Labour gets job on daily wage basis and can be retrenched any time but greater demand for labour has refrained such incidents to occur.

The KSCCL has been implementing the construction work as carried out by the private contractors. The average daily employment of hired unskilled and skilled workers has been estimated as 30 and 10, respectively, in a span of 12 months ending January, 1984, while the total wage

bill amounting to Rs.3,17,550 was 16.33 per cent of the total actual expenditure incurred in the same period. Following the estimated project period ending August 1984 and assuming the same size of employment of workers, the wage bill would amount to Rs.5.30 lakhs or 23 per cent of the estimated project cost.

### **Unit Cost Per Shop**

It has already been mentioned that land had been acquired long back and, therefore, there was neither any expenditure on land acquisition nor on land development. Thus, only the material cost of construction of shops, pavements, lavatories, parking sites, basic infrastructure and auction platform amounting to Rs. 16,38,500 or 64 per cent of the total project cost was incurred.

Per unit cost of shops (based on IDSMT expenditure) has also been estimated after deducting the estimated cost on pavements, parking sites, and auction platform and lavatories from the total expenditure which comes to Rs.17,000 excluding the provision of basic services of electricity and water.

Since the total unit cost of shop includes the cost of developed land and infrastructure also, the cost of developed land has been assumed to be the existing reserved price of the developed land in commercial areas, prevailing @ Rs.85 per sq. metre during 1980-81. Hence, the per unit total cost of shops would come to Rs.19,000.

### **Status of Project**

The priority project was conceived by the department of town planning when the IDSMT programme came into force. The construction work started in January 1983 and the project work was still under on-going and it was expected to be completed within two years. It has made a good progress and the KSCCL is hopeful of getting the work completed by the end of June, 1984.

Looking back to Table 3 again, construction work of 19 retail fish retail shops as well as of 14 wholesale meat shops, 11 shops of retailers raw fish have been fully completed. Rolling shutters have been fitted,

flooring has been done and covered with AC roof. Similarly, 24 raw fish retail shops in the centre of the market have also been completed. Construction of other kinds of shops is progressing rapidly. Approximately, 60 per cent shops have been fully constructed and in the remaining shops, more than two-third of work has been completed. The work pertaining to auction platform, cold storage, paved-roads, community facilities and infrastructure like electricity and water connections was yet to be started (in the month of February, 1984).

The project status and its different components\* has been given in Table 5. The table reveals that 71.4 per cent of the total work has been completed by February 1984, i.e., within a duration of 14 months. If this progress continues, the whole project is expected to be completed by mid of July 1984. But, the provision of basic infrastructure, such as, electricity and water connections community facilities and the furnishing work is also expected to take about two months period. And as such, the construction of the Non-vegetarian Market at Erattachira is expected to be fully completed by August, 1984.

### Project Impact

Immediate impact of the project implementation would be an increase in shops from 45 to 116 or 158 per cent and total improvement in the conditions of the entire market complex with new accesses to roads, water, electricity, shelter and cold storage. The existing market at Erattachira is in a poor condition without any infra-structural support and community facilities. Even the

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 \*For analytical purposes, different weights have been assigned in rank order of various components for construction purposes and which have been divided into foundation work (5), construction of four walls (4), and side walls (5), flooring (7), roofing (8), plastering (5) and fitting of shutters (2). Weights of each component have been given in parentheses.



Table 5 PROJECT STATUS OF SHOPS IN  
NON-VEGETARIAN MARKET

Sl. No.	Components	Percentage of Work completed to total work
1.	Foundation	100.00
2.	Four Walls	100.00
3.	Side Walls	59.00
4.	Flooring	73.4
5.	Roofing	58.6
6.	Plastering	58.6
7.	Shutter	58.6
TOTAL		71.7

service road is a narrow one without top (semi pucca) and most of the shops are open and prone to health hazards.

The shifting of the existing market place and construction of new market at Erattachira would have its impact also on changes in land-use pattern. While the existing market has only shops and paved roads, the new market would contain bigger shops of various sizes with covered verandah, auction platform and with provision of cold storage, lavatories, parking sites and cycle stand. The project would also be integrating service roads and parking sites for camping fish transport vehicles. This would also ease the traffic congestion, on the one hand and as well as it would be in close proximity to the market, on the other.

Impact analysis of the project within the existing conditions is a difficult task till it is completed and starts functioning. But a crude estimate of its impact on income, revenue, quality of marketing complex economic feasibility and employment have been arrived at by using the available data and introducing dummy variables.

wherever necessary. However, boost in the trading activity could not be analysed because of the lack of propaganda of the IDSMT schemes and lack of business approach by the planners in this direction. Lack of propaganda is an aspect, which has been widely observed in the town and which has affected (i) people's awareness about the development programmes and (ii) dynamism in business activity. Communication through mass media could have helped in the participants awareness. Lack of business means that planners did not have any estimate of the quantum of increase in the sale and indigenous (city) export of non-vegetarian commodities, particularly of fish.

### Income

Income of the shopkeepers is one of the main variables of the project impact. But it is a very difficult task to know the income of the trader because of his: (i) tendency to hide the actual turn over, if he is not a small trader, and (ii) the income and sale proceeds change daily depending upon the business turnover. The first difficulty was overcome by the direct approach method without any aid and second was validated on the ground that since non-vegetarian commodities and prices did not vary significantly in short-run, income of sale proceeds also did not change significantly. Yet for better analytical reasons, average monthly income of non-vegetarian commodities has been collected (Table 6). The meat sellers, income is highest in the town, Rs.4,375 per month, while the income of fish sellers is comparatively too less, Rs.1100 per month for fresh fish sellers and Rs.735 per month for dry fish sellers. The low level of income for fish sellers is basically the result of less profit margin because of high transportation cost and lack of cold storage.

What would be the probable impact on the dealers, income, if they get a shop in the Erattachira market? Although it is not the objective of the study to know directly whether shopkeepers income would rise due to project implementation. Since the income depends on the

Table 6 AVERAGE MONTHLY INCOME OF FISH AND MEAT SELLERS

Sl. No.	Heads	Av. Monthly Income (Rs.)	Level of Significance (per cent)
1.	Fresh Fish	1100	1
2.	Dry Fish	735	5
3.	Meat	4375	1

sale proceeds of any commodity (price remaining constant), an increase in sale proceeds, would certainly mean an increase in income. The probable change in business income is the result of a boom in the trading activity.

Presently, in Trichur town, the demand for non-vegetarian commodities exceeds, supply ( $D > S$ ) and hence there is no possibility of prices to decline. Due to more shops to be located in the new market site with an increased capacity to store and place goods, supply would also increase. But, it would not exceed the expected demand. At the most, an equilibrium between demand and supply ( $D = S$ ), might get established. The businessmen expected changes in income after the project implementation (Table 7).

Table 7 IMPACT ON INCOME AFTER PROJECT IMPLEMENTATION

Respondents	Change in Trade %			Change in Income %	
	Increase	Decrease	D.K.	Increase	Decrease
Fresh Fish	20	20	60	6.4	30
Dry Fish	57	-	43	45.0	-
Meat	50	-	50	164.3	-

Note: D.K. = Don't Know.

### Fresh Fish

A majority of fresh sellers, 60 per cent is totally unaware of the likely changes after the project implementation. This also validates our observation made earlier that awareness has been lacking in the town because of lack of propaganda of the IDSMT programme. However, 20 per cent of the fresh fish sellers hoped that their income level would rise by 6.4 per cent, while an equal number of businessmen expressed the fear that their income may even decline by 30 per cent. The likely changes have been examined by the use of curves in Fig. 5 fitted at 2-point scale (at present level and at future level after the project implementation) having the relationship between the sale and income. This needed an examination of the reasons why few businessmen feared decline in their income.

Income-Sale Curve of Fresh Fish Sellers

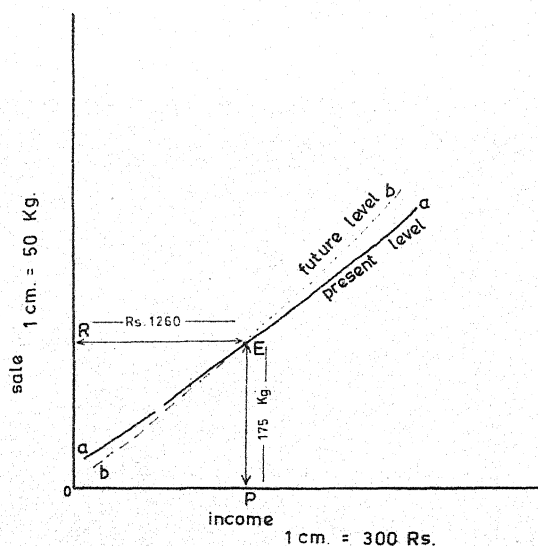


Fig. 5

At present, the relationship between sale proceeds and income is rising upwards, curve 'aa', that is

$$f(Y) \propto f(S)$$

Where, income (Y) is a direct function of sale proceeds (S). Hence, as the sale rises income also tends to increase and vice versa. A near concave curve tending horizontally makes the relationship more elastic, and inevitably the increasing demand for the product (fresh fish). The nature of the future curve, shown as bb, also resembles the present curve. Therefore the above established relationship would continue in the whole business activity. But the significance of the two curves is that they are cutting across each other at point E, one segment of the future curve 'bb' lies above the curve 'aa' beyond point E upwards and the other segment below the curve 'aa' downwards.

The above significant observations explain the likely changes in business activity and income. The curves predict that there would be a boost in the trade activity of sellers who lie above the level E and those below E would get thrusts in trade. The equilibrium point would be established for the businessmen selling 175 kg. of fresh fish per month (EP) and earning Rs.1260 per month (ER). The traders, who would sell more than 175 kg. of fish per month would certainly gain in income and they belong to the first 20 per cent of respondents. However, those who sell less than 175 kg. or 6 kg. per day, i.e., small fresh fish sellers, would incur losses as explained by the lower level of 'bb' curve below E. Such small fish traders feared a decline in income because they do not expect to purchase a shop in the new market and will have to take shop on rental basis anywhere in the town at much escalated rents which would decrease their income. Secondly, even if they get a shop in the Non-Vegetarian Market, they could not compete with big businessmen which would also adversely affect their income. Moreover, there is every possibility that consumers' choice would shift towards big shops because of increased supply.

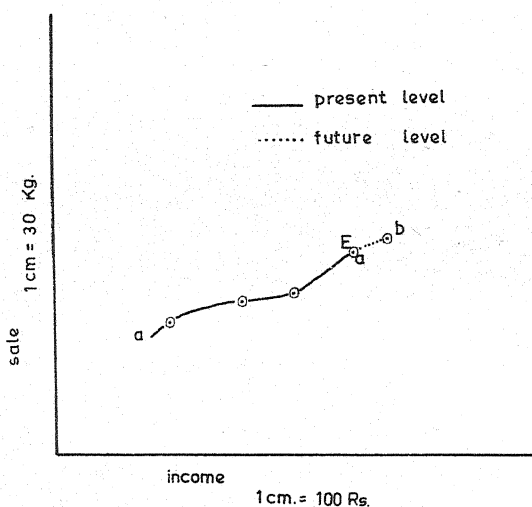
### Dry Fish

About 5.7 per cent of dry fish traders have expressed that their income would definitely increase by 45 per cent. None of the traders fear any decrease in their income, although 43 per cent opined that they would either be unaffected by this shifting or they did not know really if there would be any worth while change. The income-sale curve for dry fish traders has been drawn in Fig. 6. The relationship between sales and income both at present and future levels are overlapping with each other upto the point 'E' on the curve. It denotes that although the lower levels of traders (with less sales) would gain in trade after the project implementation, the ratio of sales and income would remain unaffected. However, a boost in trading activity is reflected from the curve beyond the point 'E' (indicated by dotted lines). Since the demand for dry fish is the least among the three non-vegetarian commodities, a greater increase in their income by 45 per cent due to project implementation would not imply that either the demand or income had attained the level of any of the two other commodities. Although the demand for dry fishes is expected to increase, it would not be able to substitute the demand for either fish or meat. This would happen so because the dry fish merchants are able to store their goods even now and making the supply to equate with the demand. The difference would be only in terms of better quality of shops and a more competitive market which might result into export-orientation of dry-fish.

### Meat

Half of the meat sellers, (50%) think that they would be benefited most by the project and their income might increase by 164 per cent more, than their present level. It is also significant to note that the demand, sale and income of the meat sellers is the highest among the other non-vegetarian commodities, and so, this high percentage increase in income would mean that any rising demand for meat would be compensated by the new market shops, more in number as well as with higher capacity.

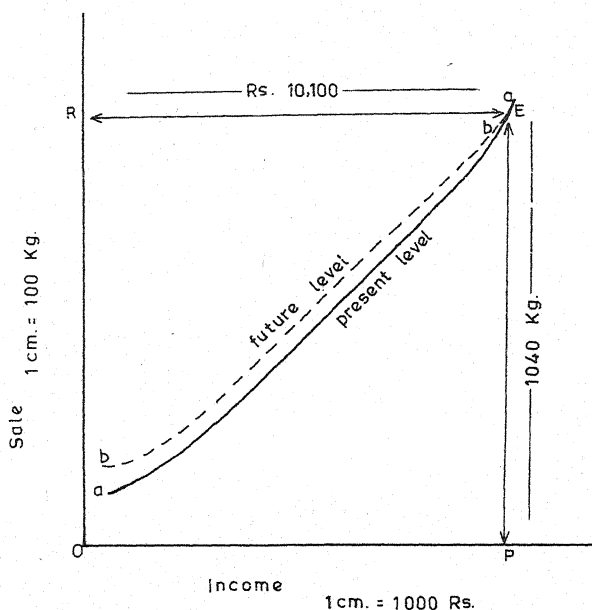
### Income-Sale Curve of Dry Fish Sellers



**Fig. 6**

The relationship between sale and income of the meat-sellers has been shown in Fig. 7. The present level of curve 'aa' is rising upwards and it is concave in nature also. The curve is, in fact, elastic and so it has same characteristic of fresh fish sellers. Moreover, a highly elastic curve also indicates that the proportion of income would increase with an increase in the sale of the same nature and lies above the present level upto the point E. Both the curves are meeting at the equilibrium point E and going upwards. The gap between the two curves goes on narrowing with rising curve indicating a higher elasticity of the curve as compared to the present. It could be concluded that the proportion between the sale and income would increase further and get stabilised at 'E' (with sale of = 1040 kg. and income Rs.10,000 per month).

### Income - Sale Curve of Meat Sellers



**Fig. 7**

### Services and Quality of Shops

The present non-vegetarian market at Erattachira does neither have necessary facilities nor enough infrastructure. Most of the shops, particularly for the fresh fish traders, are on open space covered with only wooden roof. The sellers have to conduct their daily business and finish their stock or they have to carry with them the remaining fishes. Even the service road meant for incoming and outgoing traffic is in a very poor condition. But the new market complex would be having the new essential services and improved infrastructure both for the convenience of sellers as well as of buyers.

The impact of the new project with services and infrastructure has been attempted in terms of attitude and reaction of buyers and sellers of the non-vegetarian goods. In all four questions which were asked from the respondents (both sellers and buyers) were directed to: (i) the selection of market site, (ii) size of shops,



(iii) services in the shops, and (iv) construction material and quality of shops.

An analysis of the results regarding site selection is given in Table 8 which reveals that a majority of traders (66.67%) and buyers (96.25%) welcomed the proposed construction site of the market. The common reaction has been a close proximity of the new market to the present one and at the centre of the town. The sellers who have rejected the new location consisted of 5.56 per cent of the business community and belonged to the meat selling group at East Fort.

Table 8 VIEWS ON SITE AND SIZE OF SHOPS

(in per cent)				
Respondent	Selection of Site		Size of Shops	
	Approved	Disapproved	Sufficient	Insufficient.
Traders	66.67	5.56	19.46	52.77
Buyers	96.25	-	27.50	28.75

Regarding the size of shop, about 19.46 per cent traders have found it sufficient, while for more than 52 per cent, it was insufficient because most of the non-vegetarian traders expected that they would be getting a bigger shop. About 28 per cent of the buyers found that the size was sufficient but for an equal number, it was insufficient and the remaining 44 per cent did not know about it.

A 3-point value scale of good, middle and bad was constructed in order to get the response in respect of services and the quality of shops (Table 9). About 77 per cent traders and 58.75 per cent of the buyers have ranked services in the middle order, while 58 per cent

traders and buyers both have found material used and the quality of shops of the middle order, i.e., neither good nor bad. None of the traders, however, expressed his negative opinion about the services or material used or the quality of shops was bad. While only few, i.e., 5 to 9 per cent buyers rated the services, quality and material as bad.

Table 9 SERVICES AND QUALITY OF SHOPS

(in per cent)

Respondent	Services			Material and Quality		
	Good	Middle	Bad	Good	Middle	Bad
Traders	5.56	72.22	-	36.11	58.33	-
Buyers	1.25	58.75	8.75	2.50	57.50	5.00

#### Revenue and Internal Rate of Return (IRR)

The impact analysis in terms of profits or benefit-cost ratio has also been a difficult task because the project management had not yet decided about the mode of allotment or auction of shops. However, it has been estimated on the basis of a few assumptions which are the standard modes of disposal of commercial project executed by a public body:

- (i) 15 per cent, (18 shops), would be allotted at the reserved price to the EWS businessmen as follows: 3 each of dry fish retail and wholesale shops, 10 raw fish retail shops, and 2 whole sale meat shops;
- (ii) auctioning would reach at 100 per cent more than the total cost of per unit of shops; and
- (iii) average rate of inflation would prevail at 10 per cent per annum.

Based on the above assumptions, the following position would emerge annum after the project implementation.

### Cost

- (i) Total cost of the project including material and infrastructural services = Rs.23.00 lakh

### Revenue

- (ii) Revenue from the allotment of shops to the EWS people at the reserved price = Rs. 3.56 lakh  
 (iii) Revenue from the remaining shops through auctioning = Rs.38.88 lakh

Total Revenue = (ii + iii) = Rs.42.44 lakh

Net Revenue = Total revenue - Total cost  
 = Rs.19.44 lakh

Thus, even if 15 per cent of shops are disposed of at no profit no loss basis, the project would yield profits to the tune of Rs.19.44 lakhs which is a minimum estimate, because auction bids would reach more than estimated rate of auctioning. This reason is valid on the general practice of the competition among the elites, who own gulf-money and acquire more and more commercial shops. The informal practice of transfer of property sometimes even more than 5 times inflates the fixed minimum price of land and shops both. The municipal council is also benefited by such transfers by raising rents of shops by 10 per cent of municipal properties and 10 per cent tax for private properties.

However, to estimate the benefit-cost ratio, the future value (FV) of the present receipts of Rs.23 lakhs in two instalments, first of Rs.12 lakh in November 1980, and second of Rs.11 lakh after February 1982, have been worked out at a discounted inflationary rate of 10 per cent per annum. The FV comes to Rs.31.12 lakh and hence the benefit-cost ratio would be more than unity, 1.3638. Thus, this commercial project is beneficial and bound to

yield profits to the TMC.

The IRR which is the second measure of profitability and is the real benefit of the project has also been estimated. The first instalment of Rs.12 lakhs would be invested for a period of 3 years and 9 months, and the second (remaining) instalment for a period of 2 1/2 years. With these phases of investments, a minimum gross revenue of Rs.42.44 lakh would be received at the end of August 1984. Since, the financial assistance enjoys a moratorium of 5 years, it would give IRR at 21 per cent per year, which would be absolutely free from any administrative or financial strain.

### **Economic Feasibility of the Project**

This is a widely accepted policy of public finance by communist or socialist, welfare or capitalist states, that no public utility service should normally be allowed to function, if the total revenue is less than the total cost. This is a normal practice in considering any public utility scheme or project, if undertaken by the state or its agencies. But, there is a distinction between public utility services and commercial or trade services. The distinction is of vital significance looking at both the economic and financial constraints of the local body. The distribution has been made on the basis of the dominance and feasibility of a service.

The non-vegetarian market is predominantly a commercial project and the choice of economic feasibility of the project has been estimated between: (i) refund of loan to the central and state governments and earning a total profit of Rs.19.44 lakh with an internal rate of return at 21 per cent per annum upto 1984-85, and (ii) returning the loan after 20 years and during the period reinvesting the money in more economic projects, create more infrastructures and generate capital assets. Whether the second option has more economic feasibility than the first one, is the point to be looked into.

In the second choice, the management will have to return the loan at the compound rate of 6.25 per cent per annum which would amount to Rs.77.32 lakh at the end of

20 years. However, if the earnings by sale is reinvested in similar commercial projects so that its IRR is also 21 per cent per annum, the management would receive Rs.178.25 lakh at the end of 20 years worked out on a simple rate of interest. Thus this choice is obviously more feasible which would multiply capital assets with the same amount of loan.

### **Employment**

In spite of the project being executed by one of the state government's agencies, there is no regular employment of labour, although labour is highly scarce in the state. Moreover, the demand for labour is high and its supply is significantly very low because of immigration to Gulf countries and an increasing pace of construction activity in the development process.

The project has generated a good number of skilled and unskilled labour in the ratio of 1:3. The average daily employment of the former during the project period has been 10, while that of the latter 30.

It is disgraceful that none of the state's development agencies like KSCCL, TUDA, etc., has any plan to utilize the labour force, particularly the skilled one. Although skilled labour will not remain idle and it would get some work, the skill once generated should not be allowed to go a waste, particularly, when funds are involved in their training and generating more skill, and secondly in a welfare state there should be a provision of job security.

### **PROJECT 2: CONSTRUCTION OF SERVICE ROAD**

Service road is an integrating component of the Non-vegetarian Market to facilitate businessmen, buyers and sellers, transport owners inter-acting with the market. It covers a land area to the extent of 0.37 hectare surrounding the market-complex from two adjoining sides. The width of the road is 12 metres and the total length goes to the extent of 308 metres stretched in two portions perpendicular to each other as depicted in

Fig. 4.

The main component of this project was the construction of road by developing land (filling and levelling) and finally, making a pucca road. The work started in July 1980, was fully completed in April 1981, i.e., within a period of ten months with a total cost of Rs.1,15,781. A sum of Rs.57,890 or 50 per cent was received as central assistance by the TMC.

### **Labour and Wages**

Although the project was completed in 10 months, the actual working days taken were 270 and thus, about 10 per cent of the working days were lost. There has been no loss of wages because workers were hired for the project period. The wages bill amounted to Rs.43,200 or (37.31%) of the total project cost of Rs.1,15,781.

Mostly, it is the unskilled workers who are needed for the construction of road but the total wages paid to the unskilled and skilled workers amounted to Rs.33,750 and Rs.9,950, respectively. This estimated employment generation of 5 unskilled workers paid @ Rs.25 a-day and 1 skilled worker, paid @ Rs.35 a-day for a period of 10 months. In this project, there has been 1,620 working mandays, which is a by-product of the scheme.

### **Unit Cost Per Square Metre**

For our analytical purposes, unit cost means the expenditure incurred on constructing one metre of road both in length and width. Normally the road is measured in length only but for cost calculation, area is an appropriate unit. Therefore, the per square metre road constructed is the smallest considered unit.

The total project cost incurred on the construction of road has been to the extent of Rs.1,15,781 for a total area of 3696 sq. metres (308 metres x 12 metres). The construction cost of road per square metre works out to Rs.31.30, which includes Rs.19.75 as the cost of material and Rs.11.55 as the cost of labour.

### Status and Material

The construction of road which commenced in July 1980 was completed in April, 1981. Being an essential component of the Non-vegetarian Market, its implementation could go in harmony with the priority scheme.

The road is a pucca road but without black top (tar coal). Material used in the construction was earth, rodi and stone and the upper layer has been poured with red earth and pressed with roller. However, the condition of road is good and now it does not require anything other than black top.

An opinion survey was conducted in order to know the beneficiaries or users of the project. Though the road was basically constructed for traders and vehicles carrying non-vegetable commodities, it has equally benefited the buyers also. Hence, users of service road are both traders and buyers. Traders also include vehicle drivers carrying non-vegetable commodities, mainly fish. The participants opinion regarding quality of the service road could be seen from Table 10.

Table 10 PARTICIPANT RESPONDENTS OPINION  
FOR QUALITY OF SERVICE ROAD

Respondent	(in per cent)		
	Quality		
	Good	Mixed	bad
Traders	11.11	66.67	22.22
Buyers	7.50	77.50	15.00

The opinion survey of both traders and buyers revealed that the quality of the service road has been neither good nor bad, but of mixed quality. This view was held by more than 66 per cent of the traders and 77 per cent of the buyers. But, at the same time, about 11

per cent of the traders and 7.5 per cent of the buyers, expressed their opinion that the service road was good. However, about 22 per cent of the traders and 15 per cent of the buyers found the quality of the service road as poor. Further, it should be noted that this service road in the town has been provided as an additional input serving the needs of the resident population, particularly users, which has been missing altogether in the town but for this IDSMT programme. And hence, it is an added infrastructural service in the quality of environment.

### **Added useful Infrastructure**

While construction of Non-Vegetarian Market was a commercial scheme, the service road, its essential component is wholly a public utility service. It is very unlikely and probably theoretical to make an attempt to assess its impact in terms of cost-benefit. Being a utility service, its social benefits will accrue to the users (traders and buyers) having access to the facility.

The immediate impact of this project could be assessed in terms of introduction of the service road substituting a poor kuchcha road having a narrow width at the Erattachira market. In fact, this is not more than a pavement road where people and businessmen also have much difficulty in having their transactions. Hence, this is totally a new infrastructural addition in the proposed Non-vegetarian Market complex. The existing service road would be replaced by various pavements roads having 36.64 per cent of the total area of the market as illustrated in the project 1.

An analysis of the results of two participating communities in the market reveal that about 75 per cent of the traders and 85 per cent of the buyers find usefulness of the road (Table 11). But about 8 per cent (both traders and buyers) do not find any real usefulness of the service road. Most of the traders, particularly, those who do not find its usefulness, belong either to the East Fort area or to the group of small fish traders or buyers. In fact, such participants would not be the frequent users of the service road.



Table 11 USEFULNESS OF THE SERVICE ROAD

Participating Group	Usefulness Response (in per cent)	
	Yes	No
Traders	75	8.3
Buyers	85	8.8

**Rank Order Benefit**

It has been stated that service road is basically meant for traders and vehicles carrying the saleable items. But the buyers would also be benefited by this 12-metre wide road availing the facilities of parking and cycle stand and spacious movement. The utility interaction of the service road by three communities, viz., traders, buyers and vehicle owners varies from one to another. Each one among the three participating groups was required to rank his benefit in order of preference (Table 12).

Table 12 RANK ORDER BENEFIT OF THE SERVICE ROAD

Participating Group	Rank Order (in per cent)		
	Trader (Ist)	Buyer (IIInd)	Vehicle Owner (IIIrd)
Trader	34.25	30.55	35.20
Buyer	40.00	56.25	2.5
Vehicle Owner	58.75	35.50	5.75

From Table 12, it appears that it is the trader who finds each community to be almost equally benefited in varying order from 30.55 per cent to 35.20 per cent by the introduction of service road. While both buyers and vehicle owners rank utility of service road to the vehicle owners almost as insignificant. The vehicle owners felt that they would be the least benefited, i.e., by 5.75 per cent only, because in order to sell their commodity they will have to carry fishes from the sea shore up to the terminal point, whether it is the road side or the market complex. In their opinion, the existing traffic bottlenecks were related to the other two user groups besides other traffic. Therefore, traders and buyers would be the real beneficiaries. Buyers seemed to be very much satisfied as they placed themselves on the top of the better-off level by 56.25 per cent followed by traders, by 40 per cent.

### PROJECT 3: CONSTRUCTION OF PARKING LOT FOR LORRIES

Construction of parking site is also a component of the Non-vegetarian Market. Transportation of marketable non-vegetarian raw goods, mostly fish from the coastal areas to the Non-vegetarian Market complex at Erattachira and from the market complex to the sub-markets in the hinterland is mostly done by lorries. At present, the fishes are brought by lorries to the existing market at the Erattachira and parked in the Thekinkad Maidan (Swaraj Round) in the heart of city.

The increasing demand of the non-vegetable commodities particularly fish would definitely demand more transport vehicles and they might create problems of both loading and unloading including parking also. At present, lorries after unloading fishes in the early hours of morning move to the existing parking complex (Swaraj Round). But as a result of increase in the volume of trade and traffic, the town is likely to face problems between peak hours from 8 a.m. onwards. And this was the reason that the planners decided to provide an area of 0.14 hectare for the purpose of an idle parking site for

lorries adjacent to the non-vegetarian market complex itself.

### **Nature of Work**

The nature of activity done in the project was very much similar to the construction of service road which required, in addition, land filling and levelling, and a pucca road constructed with rodi and other materials without black top.

The work has since been completed at a total cost of Rs.1,61,556 with the central assistance to the extent of 50 per cent of the total cost, i.e., Rs.80,778. The project was started simultaneously with the service road and was completed in the same duration between July 1980 to April 1981.

It has also been referred to earlier that the land surrounding Erattachira was a low lying area due to the existence of a deep tank. While the area for the location of market complex at Erattachira was slightly less low lying (about 2 ft.) being situated on the brink of the tank. The parking site had the maximum depth varying between 4 ft. 5 ft.

### **Labour and Wages**

This project was undertaken simultaneously with the project - 2. The actual working days involved were 270 as against the total 300 days. The total wage bill amounted to Rs.56,700 which is 35 per cent of the total project cost. Of this total wage bill, unskilled labourers were paid Rs.47,250, while skilled Rs.9,450. Looking at the nature of the project, basically unskilled labour was deployed. Since the wage rates have also been the same, the average daily employment of the unskilled workers comes to 7 and that of skilled 1. The total time spent during the project implementation period was 2,160 mandays.

### **Unit Cost Per Square Metre**

The per square metre construction cost of lorry parking site, which included land filling and levelling and

making it a pucca, has been worked out at to Rs.115.39, which is 3.7 times more than the previous project. It is because the land was uneven with big khaddas and that is why even the material cost was Rs.75 per square metre, while that of labour Rs.40.39. Although the lorry parking complex is a public utility service, it is predominantly a commercial project because vehicle owners, not the common men, are its real users. Further this is also a rehabilitation scheme which seeks shifting of the lorry parking complex from its present site at the Thekinkad Maidan in the Swaraj Round to the Erattachira market complex. Moreover, it would be: (i) in close proximity to the new market complex, and (ii) smoothen traffic flow by removing the traffic bottlenecks. It would also facilitate the vacation of area to execute the beautification plan of the Swaraj Round proposed to be developed with a big shopping centre, probably underground like the Palika Bazar in Delhi and leave ample scope for developing the surroundings of the present temple of Lord Shiva. In view of the above two motives which are directly related to the project, need a critical examination. The owners of 250 lorries are divided in two unions, viz., Independent Motor Drivers Union with a strength of 130 lorries and Vehicle Owners and Drivers Association with a membership of 120. The Municipality wanted both of them to shift from the existing site immediately but, there has been a strong and unanimous resentment against shifting to the new site at present. The lorry owner unions have put forth their demand before the Municipality and they were totally opposed to any move unless their demands for the provision of basic community facilities and services like water taps, retiring rooms, canteen, covered sheds, resting sheds, telephones, and shopping centre were met. It is important to note here that presently none of the facilities and services were available in both the parking complexes. But they do have access to these facilities presently because of the location opposite to the main market. To avail these facilities and services presently at the Erattachira market, they will have to cover a distance of about 4 furlongs

from the main market. But with the completion of Ernakulam bye-pass scheme, the distance will be reduced by 2 furlongs. Even if the project at the market complex gets completed, it would not be possible to have access to these facilities and services in the market, until the proposed shopping complex at the existing vegetable and fish market in Erattachira complex is completed.

One of the arguments put forward by the lorry owners was that their transport business was not solely dependent upon the transportation of fish only rather their activities were spread over the whole town and mainly concentrated on other business like transportation of consumer goods and services, machines, tools, etc. The existing lorry parking complex at the Thekinkad maidan is in the heart of the town and as a consequence they have more access to business.

The expected income to the municipality by the execution of this scheme would, in all probability, remain unaltered because this is subject to auctioning on the existing pattern unless the whole project starts operating. But an inevitable consequence of boost in the trade activity might result in the higher auction bids including those of parking lots.

### **Traffic Movement**

Swaraj Round is the central place of the town which connects main city and market areas, collectorate, railway station, bus stand, sub-urban areas and other important places of the state. Hence the removal of the present lorry parking complex from the Swaraj Round is a wise planning. Any vehicle entering the town has to touch this place connecting 7 roads and many lanes as well (see map of the town). Traffic around the Swaraj Round is one-way during 6 a.m. to 8 p.m. The lorries get parked in the complex connecting Ernakulam Road and Municipal office as well as main market and Bus stand. The traffic concentration in the area is a very high and at times, it creates a big traffic bottleneck due to incoming and outgoing lorries from this parking complex.

An analysis of the results of the traffic survey

conducted for 3 days at the close points of the parking complex reveals that the volume of traffic increased during the day time as well as during the peak hours between 9 a.m. to 10.30 a.m. and from 4 p.m. to 5 p.m. The average per hour frequency distribution of different kinds of vehicle is being given in Table 13.

Table 13 AVERAGE PER HOUR FREQUENCY DISTRIBUTION OF VEHICLES AROUND THE SWARAJ ROUND

Sl.No.	Kind of Vehicle	Frequency
1.	Local Buses	293
2.	Other Buses	50
3.	Heavy Vehicles	129
4.	Cars and Jeeps	450
5.	3-Wheelers Auto	760
6.	Scooters/Motor Cycles	451
7.	Carts	3

From Table 13, it appears that the Buses pass at an interval of every 10 seconds, heavy vehicles at 22 seconds, and cars, jeeps, scooters and motor cycles after every 8 seconds. The most frequently moving vehicle was the three-wheeler which passed through Swaraj Round after every 5 seconds and both the 3-wheeler and 2-wheeler after every 3 seconds only. The traffic bottleneck happens when any lorry originates or terminates in the lorry complex. There will not be any traffic bottleneck in the event of shifting to the new lorry parking site. About 92 per cent of vehicle owners reacted very strongly and stated that they did not agree to the idea that they are party to the traffic bottleneck or the shifting of parking complex would make the traffic movement smooth.

### Impact on Parking Capacity

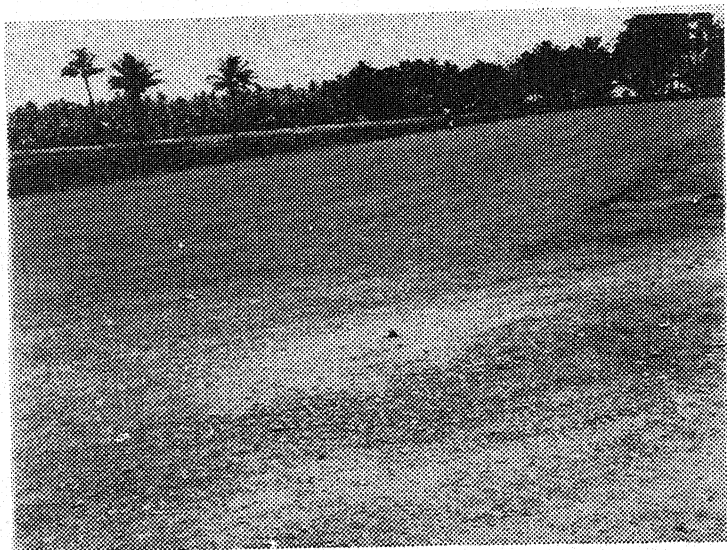
Trichur municipality had provided 0.23 hectare of land 30 years ago as parking site for commercial vehicles in the existing maidan. At that time, the number of such vehicles was about 50 only but today it is 250. The vehicular traffic gets parked near Swaraj Round because it is a vast chunk of empty maidan. The parking capacity would decline as the new site has only 0.14 hectare of land as against 0.23 hectare at the existing maidan. This would reduce the parking capacity of lorries between 60 to 90 and then what will be the fate of unparked vans and vehicles? The municipal authorities have, however, stated that the new parking site will be used by lorries carrying fish only. And another parking complex would be constructed for the majority of lorries/trucks operating in the town. This would, however, be a big problem since the operation of commercial vehicles is not confined to fishes only but also varies for different kinds of goods and services.

### PROJECT 4: ERNAKULAM BYE-PASS ROAD AT ERATTACHIRA

Ernakulam is an important city in the State of Kerala. The movement of traffic from Trichur to Ernakulam is very heavy and the Kerala State Roadways Transport Corporation (KSRTC) alone operates about 74 buses between the two towns round the clock. But the Ernakulam road connecting Thekinkad maidan (Swaraj Round) is a very narrow having a width of 10 to 15 metres in length of 1.5 km. This road too passes through the present Erattachira junction where vegetable and fish markets are located (see map of Trichur Fig. 2). At this point a large number of vehicles including lorries and two wheelers arrive at to transact their business which creates bottleneck in the movement of distant traffic.

To avoid any inconvenience to the passengers passing through such an important but a narrow road, a scheme of constructing a wider road was evolved under the integrated development programme in the new Erattachira complex (see project sites in the above-mentioned map).

A vast chunk of land had already been acquired by the Trichur municipality in Erattachira complex which was a very low-lying area. The construction of a 25 metre wider bye-pass of 800 metre in length passing through Erattachira's new complex would connect the main town without touching the narrow and congested business area of the town (Fig. 8).



**Fig. 8** Showing Construction of 25 Metre Ernakulam Bye-pass

### **Project Status**

Initially a scheme of constructing a bye-pass of 800 metres in length and 25 metre in width was conceived at an estimated cost of Rs.2,80,394. The project work was started in November 1982 but only after 10 months period, the work had to be abandoned. Till then, 167 metre bye-pass could be constructed which is only 20 per cent of the proposed bye-pass (Fig. 9). The reason for temporarily suspension of the work is due to rehabilitation work and dismantling of the offices of police control room and crime detachment unit including one residential police quarter. Although by February 1984, both the offices were rehabilitated, the police personnel had yet



## Twenty Five Metres Ernakulam BYE-PASS

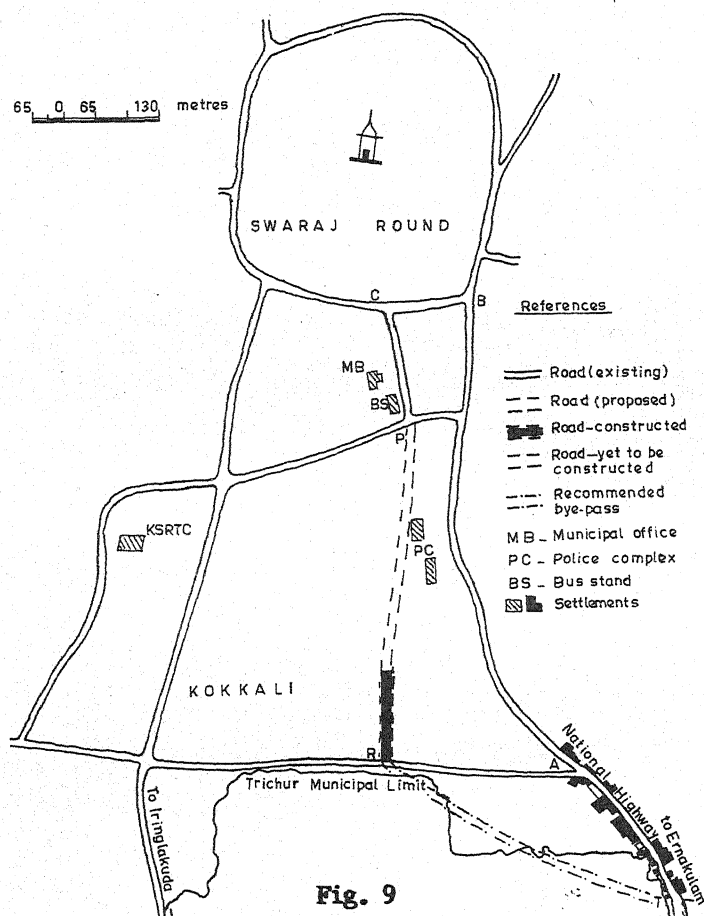


Fig. 9

to shift in the new dwelling. The 20 per cent constructed proposed bye-pass is a pucca road made of red rods similar to that of project 2 and 3, and is sufficiently wider for the movement of both way traffic movement.

### Wages and Cost

The proposed scheme had an estimated project cost of Rs.2,80,394 which has been spent on constructing only 20 per cent of the bye-pass. It is a fact that Erattachira is a very low-lying area because of the tank and this bye-pass would be connecting two corners and hence a

heavy amount of expenditure was inevitable and with the present rate of expenditure, the total cost might reach to Rs.14 lakhs.

The wages bill of Rs.1.05 lakhs accounts for 38 per cent of the project cost and the average construction cost per sq. metre gives a very high figure of Rs.67.15, which is more than twice the expenditure on previous project. The per sq. metre material cost on land filling, levelling and making a road has been Rs.41.63, while labour cost Rs.25.52. A total of 4,200 man-days were spent during a span of 10 months' creating an average employment for 14 unskilled workers per day.

Further, the project was also required to undertake rehabilitation work of the two offices and one residential quarter; it added an expenditure of Rs.5.65 lakhs which was solely borne by the TMC (Table 14). Both the new offices have now better infrastructure and services than the old ones, and the police officials were very happy with the new office building. Even the new dwelling constructed for police personnel has improved facilities. The total project may now reach to Rs.19.65 lakhs which includes the rehabilitation expenditure of Rs.5.65 lakhs. The burden of rehabilitation expenditure on the municipality was 8 per cent of the development expenditure and 4.5 per cent of the total expenditure during 1983-84.

Table 14 REHABILITATION EXPENDITURE ON ERANAKULAM  
BYE-PASS SCHEME

Sl. No.	Name of Office	Period	Total Expenditure (Rs.)
1.	Police Control Room	April 82 to June 83	2,26,162
2.	Crime Branch inclu- ding one staff qr.	Jan. 83 to March 84	2,39,358
TOTAL			5,65,520

### **Project Impact**

The project has not been completed fully as yet. Only one-fifth of the total length of the bye-pass constructed within a span of 10 months, i.e., from September 1983 to February 1984, the project is lying idle without any further construction. The work was stopped for want of dismantling of official buildings. To assess the project impact of an incomplete project is difficult but considering its future importance in terms of relieving traffic congestion would be significant.

### **Traffic Congestion**

The direct impact of the bye-pass on all transport vehicles from Ernakulam (to and fro) would have an access to this 25 metre wider road instead of a 10 metre narrow road. There are about 74 public buses of the KSRTC plying on this route (whose per hour average frequency during day time is four) which would have an access to this road in addition to a number of other heavy vehicles. The capacity of the new bye-pass is two and a half times more than the present one and it establishes a good linkage between the two towns.

### **Feasibility**

The economic feasibility of the project could be assessed in terms of its optimal use for social gains. In Fig. 9 present route has been shown as TABC which is 1.3 kms., while the proposed route would be TARPC 1.45 kms. Thus vehicles will have to cover an increased distance of 150 metres. RC is the Ernakulam bye-pass and its stretch RP has been constructed, while PC has yet to be constructed. But the smooth and speedy flow of vehicular traffic would be covering more distance in less time neutralising the fuel wastage on account of traffic bottleneck.

Secondly, in Fig. 9, R is the terminal point of the town on the bye-pass. Undoubtedly, if this scheme is confined upto point R, it would mean that the bye-pass scheme has considered traffic congestion on the main road of existing Erattachira market only. But as the develop-

ment schemes under the IDSMT programme have revealed that the construction of new market-complex at Erattachira would remove the present traffic bottleneck by shifting the existing lorry parking lot, this bye-pass has justification only in terms of specific planning of the town. In fact, there is traffic congestion on the present Ernakulam road even beyond point A, i.e., upto point T. It is because this stretch at AT is narrow only 10 metre wider and on both sides of the road there are a number of educational institutions, houses and shops. so, the widening of road between AT is not possible without their rehabilitation. Looking at the rehabilitation expenditure of only two governmental offices including one residential quarter, the rehabilitation of each house, school and shop would be enormous. Moreover, it would also need expenditure on dismantling and widening both.

However, there seems to be an urgent need of extending this bye-pass on two grounds: firstly, it would be a link road to the main wider road connecting Ernakulam at point T because BT is a narrow road and 10 metre wide only, and secondly, the total distance between the two routes would be economised. Since the first point relates to the extension of bye-pass from R to T, the proposed route should be TRPC instead of TARPC. And thus, TAR route should be substituted by another road TR. This is more feasible because this would avoid dismantling of schools, shops and houses including widening of this 330 metre road between points AT also. If TR distance is constructed, it would be 600 metres only, while TAR is 650 metres.

It is also important to note here that land on the right side of RA and AT is barren and not fertile. Secondly, if we see the municipal boundary, the road between points RT would be beyond the jurisdiction of municipality. Thirdly, a vast chunk of this barren land has been proposed to be donated by the landowners on the condition that the road should be constructed and minor infrastructure should be provided within 3 years (see Ch.9).

Hence, there seems to be no visible constraint in the

construction of the road as people are voluntarily participating in the development scheme. The construction would also minimise the distance between the two routes by 130 metres. Thus, an increased distance of 150 metres would be compensated by decreased distance of 130 metres and hence it correctly establishes the total feasibility of the bye-pass.

#### PROJECT 5: SHORNUR ROAD BYE-PASS

The road connecting Shornur which varies between 10 to 13 metre in width which passes through Swaraj Round and was inadequate to meet out even the needs of existing volume of traffic smoothly. Further development of the town and of the State as a whole would also increase the traffic flow and, therefore, more traffic bottlenecks could be anticipated. In order to solve the expected problem of traffic bottlenecks and making the traffic easy going, the Town Planning Department has prepared a scheme to construct a wider bye-pass under the IDSMT programme.

##### **Nature and Status**

The construction of Shornur bye-pass has since been completed (Fig.10). This is a 25 metre wide road stretched over two sections of bye-pass through: (i) Dewaswam compound, and (ii) Vadakkacira. The first section of this bye-pass measures 340 metres in length and the second 460 metres. The land area of 0.85 hectare for the first section had been acquired from Dewaswam Board, a religious trust, during 1980-81 at a cost of Rs.3,23,556. The land for the second section had already been acquired earlier by the municipality prior to the commencement of the IDSMT programme.

The construction of first section was completed in March 1981 and the second section in July 1982. The construction of road although given on contract, was not a time-bound project. The first section of the road took 12 months and the second one, 15 months. This bye-pass is also a pucca road made of red rodís and of the same

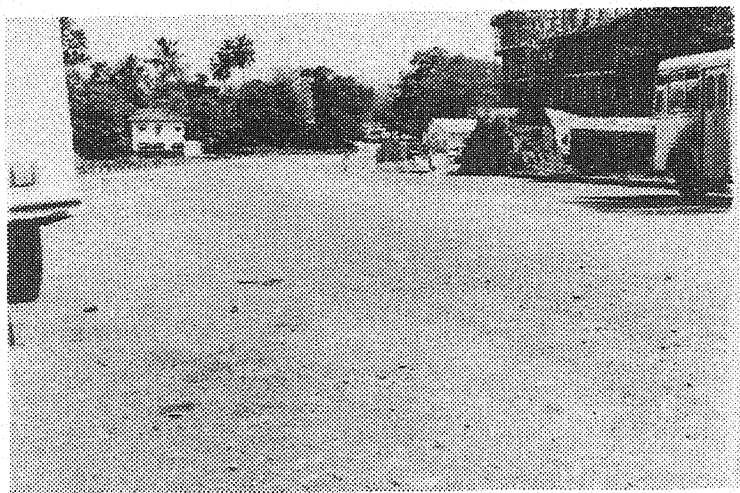


Fig. 10 Showing Newly Constructed Shornur Bye-pass

material as used in the previous project.

#### Wages and Cost

Shornur bye-pass has two sections of expenditure. In the first section it included land acquisition, land filling and leveling, and road construction, in the second, it included only road construction. Total expenditure in the first section has been Rs.6,26,977 (Rs.3,23,556 on land acquisition, and Rs.3,03,421 on filling, levelling and road construction), while in the second section as Rs.2,79,745.

The total wage bill amounted to Rs.2.01 lakh which is 22 per cent of the total project cost. A total of 7,800 mandays were created for workers during a working span of 300 days giving on an average employment to 2 skilled and 24 unskilled workers for 10 months.

Keeping the analytical uniformity per sq. metre item-wise expenditure on the two bye-pass sections has been given in Table 15. The underdeveloped land from the Dewaswam Board had been purchased at the rate of Rs.38.07 per sq. metre and the development expenditure on this, i.e., filling and levelling only, has come to Rs.11.38 per sq. metre. Thus, purchase cost of developed land

from Dewaswam Board amounted to Rs.49.45 per sq. metre. However, the construction cost of the two sections of the bye-pass has been the same, i.e., Rs.24.32 per sq. metre, although in the first section, total cost was calculated at Rs.73.77 per sq. metre including acquisition, leveling and filling. The average construction cost of the completed bye-pass amounted to Rs.45.33 per sq. metre of which Rs.9.97 has gone to labour as wages (22 per cent) and Rs.35.36 towards land and material cost (78 per cent).

Table 15 PER SQ. METER EXPENDITURE OF THE TWO  
BYE-PASS SECTIONS

Sections	Items	Expenditure per sq. metre (in Rs.)
I	(i) Land Acquisition	38.07
	(ii) Land Development	11.38
	(iii) Road Formation	24.32
	TOTAL (i) + (ii)	49.45
	(ii) + (iii)	35.70
	(i) to (iii)	73.77
II	Road Construction	24.52
	Average of I + II	45.33

### Traffic Congestion

The problem of traffic congestion has been solved after the construction of the bye-pass. The narrow road emerging from the Swaraj Round created lot of traffic hazards, particularly for heavy vehicles and public transport. It may be particularly mentioned that KSRTC

alone operate 26 Buses with an average frequency of 40 minutes during the day time. Since, this bye-pass has been in use, capacity of traffic-flow has also increased by 2.5 times and the traffic bottleneck have been almost removed between Swaraj Round and Pattavaikkul junction.

The bye-pass has the similar feasibility of project 4, that is lacking here also. In Fig. 11, the narrow road for Shornur emerging from Swaraj Round has been shown as PRT. R is the Pattavaikkul junction. The first section of the Shornur bye-pass through Dewaswam is BK and the second section through Vadakkachira is KA. After the construction of this bye-pass, traffic to Shornur would go through AR and then take the main road RT. The difference in the distance of the two routes is insignificant. Earlier the distance covered for PR route was 1 km. long and now both BA and AR routes would cover 1.05 km. Hence, there is no direct economic gain in terms of fuel saving but there is certainly gain in terms of time saving and social gain in terms of easy-going traffic.

The feasibility of this project can hardly be understood, if it does not make the traffic movement easy throughout the Shornur Road. Since the stretch between points RT is a narrow and only 10 metre wide having schools, houses and shops on both sides, it cannot be widened unless these structures are demolished and rehabilitated. The demolition and rehabilitation is not, at all, feasible on this road because of the same constraints and losses as contained in the project-4. As such, there is no justification in the argument for removing traffic congestion between points PR only, while the distance between RT has the same narrow width.

The economic and social feasibility of the bye-pass demands construction of another 25 metre wider road connecting the distance between AT directly. There is no constraint of any sort in the construction of road. The project impact after the construction of road between points AT would be more feasible because:

- (i) the distance would be reduced and road length between points AT would be 530 meters only, while



# Twenty Five Metres Shornur Bye-Pass

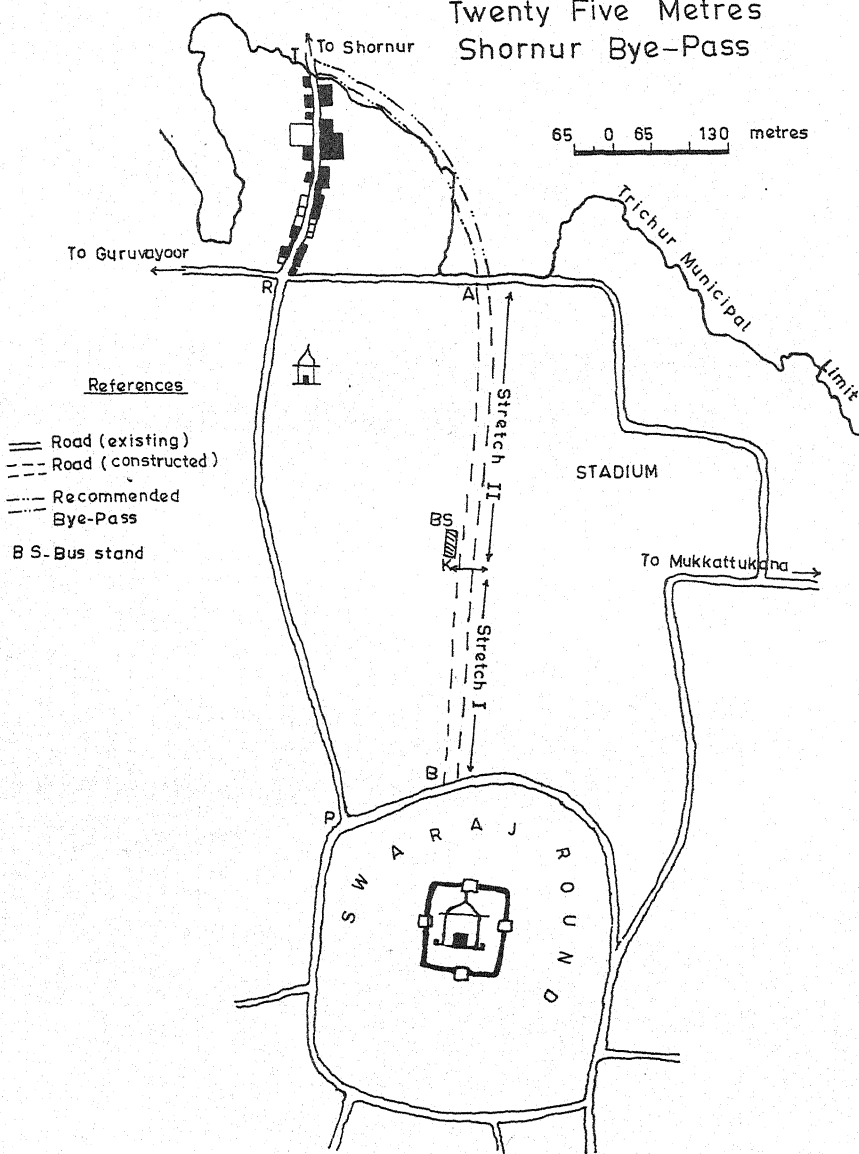


Fig. 11

traffic covers a distance of 850 metres now thus, minimising a distance of 320 metres;

- (ii) traffic movement would be very smooth right from its origin moving towards Shornur from the Swaraj Round; and

- (iii) it would require an expenditure of Rs.3 lakhs only in the construction of this road which would be much less than the cost of demolition, rehabilitation, and widening, etc.

### PROJECT UNDER COMPONENT 'B'

Like a number of projects in component 'A', TMC has also undertaken 9 projects under component 'B' of the IDSMT programme. Of this, 4 have been completed, while in the remaining 5, the work is progressing fastly. Of the 9 projects, 3 belonged to rehabilitation works already discussed under component 'A'. A brief description of 6 projects is being given below:

#### 66KV SUB-STATION

This is municipality's own electricity distribution sub-station touched on a land area of 0.4 hectare. The sub-station has started working. It was financed by the KUDFC.

#### JAI HIND MARKET

This would be the biggest three-storeyed shopping complex in the city's heart near the Municipal office. It would also accommodate other offices. An amount of Rs. 27,19,740 has been spent so far and it is likely to reach upto Rs.45 lakhs. KUDFC has financed Rs.25 lakhs in this project.

#### SHOPPING COMPLEX AT PATTAVAKKUL JUNCTION

This is also a shopping scheme spread over a land of 10 acres. The complex is intending to other offices. The construction work has been completed at a total cost of Rs.10 lakhs, 40 per cent of which was received as a loan from the KUDFC.

## SHOPPING COMPLEX AT KURUPPAM ROAD, EAST BLOCK

This project has been started with an estimated cost of Rs.14 lakhs, of which, Rs. 3 lakhs has been taken as a loan from KUDFC.

## SHOPPING COMPLEX AT KURUPPAM ROAD, WEST BLOCK

The TMC under component 'B' has been concentrating on the construction of shopping complexes to boost commercial activities and to increase its non-tax revenues. The project has started its construction work with an estimated expenditure of Rs.52 lakhs, of which, Rs.20 lakhs would be financed by KUDFC.

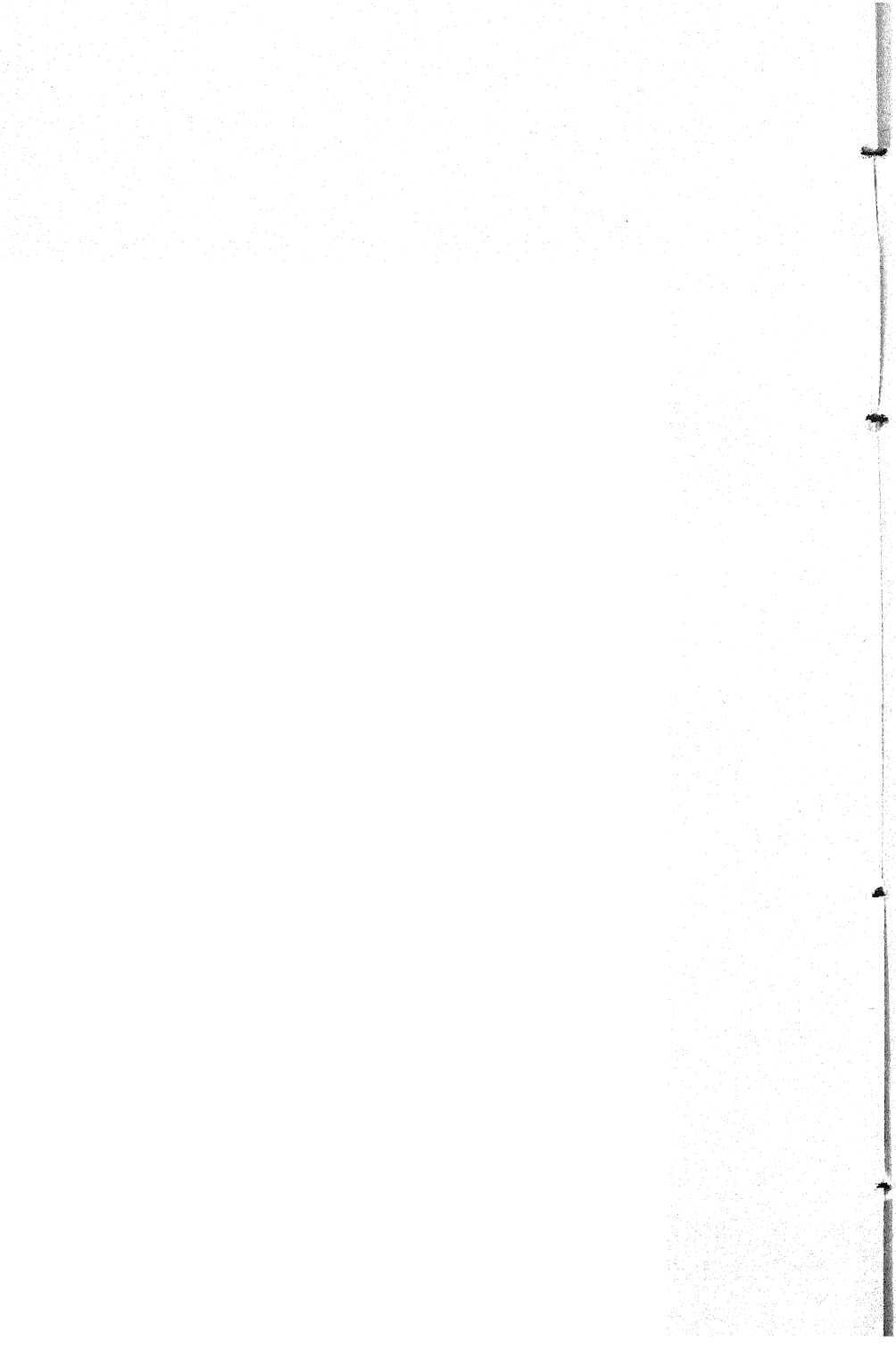
## TAGORE CENTENARY HALL

This would be a municipality's community hall having a theatre with a relative capacity of 500. It is under construction and the estimated expenditure is Rs.15 lakhs, of which, Rs.2.5 lakhs would be financed by KUDFC.

PART FOUR

PROJECT MANAGEMENT: GAINS AND CONSTRAINTS

POLICY IMPLICATIONS OF EVALUATION FINDINGS



## 9 PROJECT MANAGEMENT : GAINS AND CONSTRAINTS

A multi-function management of a project, widely defined as non-routine, non-repetitive and dynamic activity with financial commitments, is called project management which also involves a complex and high degree of stakes. The complexity is further compounded by the fact that the project organisation is often a short term specific arrangement for the achievement of project performance objectives.

There are four phases in the life cycle of any project, viz., identification, formulation, implementation and completion, and the success and failure of any project is obviously a function of the first three phases of the life cycle. The identification contains broad parameters, such as financial resources, time frame, nature and type of project, etc., within which a project is to be identified. During the formulation stage, concepts for development are evolved, project evaluation is prepared and key project personnel are appointed. Project implementation is the main part of the whole project which also accounts for a larger part of the whole project as well as for a larger share of the total outlay. During this phase raw materials are obtained and manpower is put to their tasks. The last phase of completion, sees the culmination of project and also involves integration of its various components finally declared ready for use.

Having discussed the various steps in project management, evaluation and its impact through project execution and operation, of costs and benefits, phasing, etc., this chapter proposes to discuss the gains from and con-

straints in the implementation of projects. Gains are apparently the vital effects and side benefits of project implementation and constraints are the problems and resistance faced by it during any phase of the project life cycle. But, it should be made clear that the study team itself sometimes faced difficulties of data constraint. This occurred precisely because of the running of various projects under implementation which were not exceeding the time-frame. However, the study team had to remove such constraints through estimation and insertion of dummy variables wherever necessary. Further, the results and observations in this chapter are broadly based on the opinion scheduled as given in Annexure 1.

## GAINS

### Improvement in Physical Environment

Apart from the economic impact of the individual projects, one of the major gains to the township has been an improvement in the physical environment and the socio-economic status of the town including services and amenities which have been upgraded. Although this is a major gain, the side effects of integrated projects have not only directly benefited the target group but also the whole community of the towns which felt improved and better off than pre-project period. This gainful situation has been arrived at because the community have access to an added infrastructure, i.e., planned roads, markets, dwelling units, civic amenities including drainage and sanitation and horticultural activities, making a good living environment for people. Besides, the public investment which has created employment, basically at the grassroot levels has also worked as a push factor in raising the per capita income, and thereby, helping the urban poor to come out from poverty line - the mighty 'below per capita income level'.

The chairman of the Urban Improvement Trust, Sri Ganganagar observed that only the IDSMT scheme has been instrumental in converting the deserted look of the whole project area into a 'model' for which the whole city is

proud of. He further added that only three years ago, the whole town looked like a remote village with narrow lanes, rough streets, water logging utterly unhygienic living conditions, particularly in the slum areas, etc., but today an old resident or visitor coming after a gap of three years would wonder to see the changed conditions. Even before the implementation of the scheme, peculiar conditions prevailed and even the households' waste water had to be thrown-off with the help of tankers, because the town completely lacked drainage system. The study team was also apprised of the pre-project conditions of the town through the video recorded cassetts by Urban Improvement Trust.

The chairman of the Trichur Municipality has pointed out that apart from the IDSMT Scheme covered under the component 'A', projects in the component 'B', especially the multi-shopping centre in the Jai Hind Market (the heart of the city) and the 66 KV electric sub-station, have totally changed the town's environment. The chairman and the people of the town were proud of having a sub-station under full control of the municipality.

### **People's Participation**

People's participation has attracted much of the public debates. But, it still continues to be a vague and controversial issue. However, a simple but straight question was raised before the project personnel, i.e, whether IDSMT schemes had invoked any kind of people's participation and it was further probed, if it was sought or it had come voluntarily.

A unique characteristic of the people's participation has been noticed in Trichur. The newly constituted Trichur Urban Development Authority (TUDA) has been carrying on urban development projects at Kannamualangara area lying on the southern part of the T.B. Road in Koorkkanchery Panchayat adjacent to the ward no. 14 of the municipality. In the northern part of the T.B. Road which lies in the municipal area, a town centre extension project was envisaged in an area of 26 acres. The Trichur Urban Development Authority had demarcated 15.40



acres of land for various urban development schemes such as, roads, commercial centres, residential area and public and semi-public spaces. But to the utter surprise of the authorities, the eight landowners, who had initially declined to dispose of their land, voluntarily agreed to the incentives offered and the mediatory role played by the Chief Town Planner. The landowners were asked to implement the scheme retaining land ownership so that they could be benefited from the increased value of developed land. This simply changed the minds of the eight such landowners who voluntarily surrendered their lands to the TUDA free of cost. This was goodwill of the concerned authorities and a decisive and most scrupulous role played by the Chief Town Planner (Shri Mathew Varghese) which invoked people's participation for a good cause of the community for the development of Koorkkanchery panchayat, a hinterland, which could be converted into an urban area. Of course, this was an impact of the development projects running in the town that could mould and gear up the psychology of the people. A remarkable feature worth noting is the voluntary donation of land with complete awareness that the basic motto of the project is fulfilled.

The case is further substantiated by the settlement conditions that the: (i) land of the landowners will be pooled up and reconstituted, (ii) infrastructure will be provided by the TUDA within a period of three years from the date of agreement, and (iii) land owners will carry out developments in their respective land within a period of next three years. The proposed landuse pattern consists of 9.90 acres for residential use, 3.05 acres for roads, 0.50 acres for commercial development, and 1.95 acres for public and semi-public uses. The Trichur Urban Development Authority was allowed to have possession of and maintain 5.50 acres (about 36%) of the donated land.

However, no such participation has come into light in Sri Ganganagar. But the implementing agency and project personnel feel that people's non-resistance rather appreciation and due regard and proper use of schemes are the

biggest kinds of people's participation. They have communicated that they never sought any sort of people's participation - voluntary or so, instead, they have relied upon their own management and have successfully shown their worth by delivering goods and services by a good team spirit headed skilfully by the Chairman of the Trust. The study team has also witnessed this fact by a cordial welcome and positive attitude of the people (respondents) including the political opponents and critics who admired the good work and the zeal and initiative taken by the Chairman of the Urban Improvement Trust (Shri Radhey Shyam ji) to upgrade the services of the town and provide a quality of life to the people. In some critics opinion, "he has boosted the morale of the Urban Improvement Trust".

## CONSTRAINTS

### Financial Resources

Inadequacy of funds is the biggest constraint faced by the project management. The central assistance to the extent of 50 per cent is an incentive for initiating development activities, but its ceiling at Rs.40 lakhs acts as a constraint because projects have to be framed strictly within this financial limit, even if it is the privileged scheme. Secondly, there is still an unresolved controversy over the matching contribution of the grant by the state government and the local body. While the general practice for the allocation of financial resources of Rs. 1 crore for the project has been in the ratio of 40:40:20 among the central government, the state government and the local body, respectively, the Rajasthan Government have made the financial allocation in the ratio of 1:3 in the state sector and 2:3 in the local sector, shifting a major burden on the local body on the plea that the Improvement Trust was financially sound and was able to carry on the projects. In Sri Ganganagar, out of a total project expenditure of Rs.75.30 lakh, a sum of Rs.37.65 lakh was given by the central government as the central assistance and a sum of

Rs.13 lakh was given by the state as its matching contribution (violating the matching clause), while the remaining Rs. 24.65 lakh was borne by the urban improvement trust.

Dropping of approved Projects is another constraint which has been witnessed in the proposed IDSMT projects. The Bus Stand scheme in Sri Ganganagar is such an example. Apart from some disputes, it was difficult to implement the proposal because of shifting of the project site from the proposed disputed land to the new spacious area near Jawahar Nagar with more capacity but with an escalated cost of Rs.1 crore as against the proposed cost of Rs.4.70 lakh. Hence the scheme could not be undertaken as an IDSMT project because "the financial ceiling of Rs.1 crore per town was being crossed on this single project". In Trichur, the Chairman (Prof. N.D. George) observed that about 600 applications were lying for getting processed for the implementation of low cost sanitation schemes and for the disposal of night soil, which could not be undertaken by the municipality for want of money alone.

No full commitment to the financial investments is also a constraint which comes in the way of project implementation. The 20 per cent of the Ernakulam Bye Pass constructed at a cost of Rs. 2.8 lakh, would need another amount of Rs.11.2 lakh for its final completion. But, under the present ceiling of Rs.40 lakh, it may not be possible for the project management to complete the work.

### **No Timely Release of Matching Grant**

Late receipt of the matching grant from the state government has also been a financial constraint in the project management. In the case of Sri Ganganagar, the grant instalment was generally received on the eve of the close of the financial year. Although the laid down procedure for the release of grant is that the state's matching contribution should be released simultaneously soon after the receipt of centre's contribution. But generally, it has not been the practice and normally, the

grant was released on the close of the financial years.\* It shows inordinate delays on the part of the state government without keeping in mind the project interest.

### Legal Constraints

Judiciary plays a major role in a democratic country and it enjoys wide powers in submitting, granting or staying any deed temporarily. In both the towns, particularly in Trichur, legal constraints have come in a way of project implementation which have checked the pace of development activities. It has become a common practice of people in Trichur to take stay orders from the court against any land acquisition, rehabilitation or removal. Four projects under the component-A, viz., Residential Development at Erattachira and Shornur Road, and construction of two roads - Ring Road East and Ring Road Missing link, had to be dropped because of stay orders from the court. An interesting case has also come to the notice in the Jai Hind Market complex which has almost been completed. There were three small fish traders who were doing their business and living on the roadside unauthorisedly. After the scheme of Jai Hind Market was unertaken, the three unauthorised occupants were asked to leave. One of them went to the court and got the stay order. The result is that even if the whole market project has been completely construced, one part of it would remain unconstructed, until the court decides the case, which normally takes 3-5 years. Our judiciary lacks

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 \*The first instalment sanctioned vide letter No.Pa-4(2) Na Yi.Aa/1/80, dated 14-3-1981 for Rs.5,80,000 was received by the UIT on 25-3-81 and the second one sanctioned for Rs.39,00,000 on 12-3-83 was received by the UIT on 29-3-83. In case of Trichur, the central assistance (second instalment/sanctioned on 8-3-82 was received by the municipality on 12-12-82. The first instalment sanctioned vide letter No. K14011/60/80 UD-III A, dated 8-12-80 was received by the municipality on 26-3-81.

progressive interpretation of development laws and acts; it needs to be reoriented in the larger interest of the society. It may require even some changes and modifications in the existing laws also.

The chairman of the Trichur municipality observed and categorically pointed out that such events were common in the development activities. He specifically cited the court's stay order banning the construction of Ring Road which was to connect hinterland to the city. It was also observed that some political influences were also working in providing undue help and inciting people to go to the courts. But such problems were skilfully managed by the UIT in Sri Ganganagar even before these could occur and undo such things. This could be made possible due to the close scrutiny and observation of the local situation made by the implementing agency, i.e., Trust and its strong decisions.

#### **Administrative Constraints**

The Administrative constraints have come into lime-light due to inter agency/departmental functioning and conflict in operational areas. This has been so due to lack of cooperation and coordination among various functionaries of the government and their institutions. To substantiate the argument, an example of this kind is being cited from Sri Ganganagar. For electrification in the Jawahar Nagar area, the UIT had deposited Rs.5 lakhs quite some time back, but even after the lapse of 6 months period, the Electricity Board did not take any action. Looking at this delay, the project management took another decision to manage the affair by installing their own electric polls. It was also found out that the Electricity Board management was not only inefficient but reportedly charged more than the actual expenses, and at the same time it was non-conforming to the tempo of development activity.

Another interesting but ineffective constraint in Sri Ganganagar has been the formation of city Monitoring Committee comprising of members from state government and city administration. The chairman of the UIT observed

that the members of the city Monitoring Committee have been very much irregular and seldom attended but whenever they attended, they criticised the things already done out of personal prejudices only and to show their presence felt.

The other type of administrative constraint that has come to the notice was due to conflict in operational areas. For example, although there are two city local bodies for the development and maintenance of Sri Ganganagar, namely the Municipal Board and Urban Improvement Trust, their operational areas in some fields like slum areas have not been properly demarcated, leaving much scope for the conflict between the two. Since Municipal Board is not having enough of resources and lacks interest also, it doesn't object to any kind of services being provided by the Trust. But the Trust objects to this kind of indifferent attitude of the municipality towards improvement of the city environs.

### **Technical Constraint**

Technical problem is another constraint inherent in the technical incapacities of the project management. In Trichur, the court stay orders were there because management lacked foresight and managerial training. The absence of such persons, who could assess the situation and anticipate the event, even before it happens, comes in the way of development administration. It has become a normal practice to blame the management for inordinate delays in programme implementation without considering their technical and managerial capacity. Since it affects decision making capabilities, the problem could be tackled by injecting suitably trained and experienced persons. In Sri Ganganagar, Executive Engineer of the UIT felt that the project management should have social scientists and architects who could guide in proper planning and designing and help in project implementation also. In his opinion, unless and until these two kinds of personnel are properly inducted in the project management, the project can neither be successfully operationalised nor implemented. Secondly, the social scientists

could also help in telling the priority schemes or privileged sector, which require more attention and where due emphasis should be given. Moreover, whether it is a "cause and effect" analysis or an enquiry into the "why and how", it cannot be judiciously done without the help of social-scientists. An example of the technical incapability has also been witnessed in the project implementation of a residential scheme in Sri Ganganagar. In Jawahar Nagar area, sewerage scheme cannot be implemented, until the city enjoys this basic infrastructure. This technical fault could have been removed by envisaging a comprehensive plan for the whole city, before it is implemented in any specific segment of the town.

# 10 POLICY IMPLICATIONS OF EVALUATION FINDINGS

The planning and implementation of integrated development of small and medium towns programme is a model of progressive development based on the provision of basic services and area upgrading projects. It requires not only an evaluation to quantify the achievements and their impact but also to assess the role of the project in bringing them about. The IDSMT programme carries the objective of integrated area development of small and medium towns vis-a-vis the hinterland with the intention of reducing the rate of migration to the metropolitan cities as well as to strengthen the economic base of small and medium towns. The programme has, therefore, been envisaged as a token of decentralised urban policy to bring about balanced area development through physical development of space and employment-oriented programmes to provide a quality of life to the citizens living in such towns. The strategy thus adopted for such a growth pattern, by providing infrastructure and services, is the essence of unbalanced growth which follows development via excess capacity of "social overhead capital".

## ADMINISTRATIVE COORDINATION

Incidentally, some of the programmes of integrated urban development which are contained in the Prime Minister's New 20-Point Economic Programme also interact with the IDSMT Programme, e.g., improving the environment of slums, implementing programmes of house-building, for economically weaker sections, and taking measures to arrest unwarranted increase in land prices including



socialisation of urban land. These programmes therefore provide ample opportunities for administrative coordination of various multi-functional authorities at various levels in the development process. Of course, there are inter-departmental coordination problems which have been generally noticed (in the Electricity Board of Sri Ganganagar) during implementation.

#### MISMATCH OF RESOURCES AND PHYSICAL TARGETS

Looking at the programme implementation, it could be said that the project performance has been commendable because most of the targets have been achieved within the stipulated time schedule. But the problem that has rested with the IDSMT programme is that the physical planning has not been integrated with investment and financial planning, resulting in the mismatch of resources and the capability of project management. As a result, some of the projects had to be dropped, e.g., Bus Stand Project in Sri Ganganagar, and Rehabilitation and Commercial Schemes in Trichur either for want of financial resources (in Sri Ganganagar) or due to legal constraint (in Trichur). It therefore demands a careful analysis of IDSMT programme and relating its objectives to resource constraints if the programme is continued and strengthened during the Seventh Five Year Plan.

#### SOCIALISATION OF LAND

The evaluation results of the housing project in Sri Ganganagar reveal the distributional aspects of the project benefits. Although alleviation of poverty is not the primary goal of any housing project, better dwelling units and improved living environment within the reach of both EWS and LIG people. Moreover, it has also socialised more urbanisable land which is one of the integral component of the 20-Point Economic Programme and earned 100 per cent profit. The similar conclusions could also be drawn in the case of Non-Vegetarian Market project in Trichur, where it has been economically feasible and the

project has earned a rate of return @ 21 per cent per annum, besides helping in the expansion of traders and raising their income levels.

#### BENEFITS MORE THAN THE OPPORTUNITY COST

Purely infrastructural project like Link Road in Sri Ganganagar has also been economically feasible as its economic return could be more than 16 per cent of the opportunity cost of the project. Likewise, the Service Road in Trichur would be an added infrastructure to the shopkeepers and buyers as well. The two bye-passes in Trichur - Ernakulam and Shornur - would smoothen the traffic movement in the town and also increase the traffic capacity of traffic load by 2.5 times.

#### ECONOMIC LINKAGES AND EMPLOYMENT GENERATION

The employment generation and areal development as a result of IDSMT programme implementation have established both 'forward' and 'backward' linkages. In Sri Ganganagar, the environmental amelioration brought about by upgradation and addition to the services provide ample evidences of functionally dependent and potentially positive 'forward linkages'. Whereas, increase in the effectiveness of improvement in the urban management through housing project identified in terms of more generation of skill and personnel development manifest 'backward linkage'. This suggests for integrating both 'spatial' and 'non-spatial' linkages between rural and urban areas for a more dispersed distribution of population.

#### SUBSIDISE THE RESOURCES OF SMALL TOWNS

The implications of the IDSMT programme is far reaching in its content of employment generation, trade expansion, poverty alleviation and raising levels of income, and overall development of small and medium towns vis-a-vis their hinterland. But all these policy impli-

cations have more value in a time frame when a host of small and medium towns (both ring and satellite) are proposed to be developed within the revived National Capital Regional Plan, and more so, when this bolder policy is continued during the Seventh Five Year Plan which is under preparation. Since urban unemployment problem will be more crucial in coming decades, it might even pose danger to the democratic process of local-self government. Economic activity of industrial nature has to be discouraged in big cities and the resources of the small towns need to be subsidised. This is also substantiated by a recent study<sup>1</sup> which has indicated that the growth potential of the small and medium towns is more vital and feasible through infrastructural development.<sup>2</sup> The study has further revealed that the unit cost of providing services<sup>3</sup> and creating jobs was also comparatively cheaper<sup>4</sup> in the small and medium towns than the metropolitan cities.

#### EMPLOYMENT-ORIENTED PROGRAMMES

The employment generation is the basic objective of our plans and such programmes like TRYSEM which have been introduced during Sixth Five Year Plan intended for the development of human resources which is an essential prerequisite for economic growth in a capital scarce country like India. The integrated development of small and medium towns would generate employment, a vital factor in reducing the rate of migration to the metropolitan cities. If employment-oriented development projects are undertaken and effectively executed the operation of migration push factor and scarcity of essentials and low purchasing power would be checked or minimised. L.K. Jha - Chairman of Economic Administration Reforms Committee, while analysing the Seventh Plan priorities stated that "however, what needs to be recognised is that we have come to a stage of development when its fruits need to be more widely shared. While quite a variety of measures would be needed for this purpose, the most important would be to place employment generation at the centre of

the Seventh Plan".

The two projects in Sri Ganganagar have provided employment to 40 workers and the five projects in Trichur to 92 workers. But the Housing Project in Sri Ganganagar is expected to generate employment for another 2,500 workers, one third of which would be on the skilled jobs. If such a large number of jobs created are not sustained and rendered jobless, particularly, skilled ones, the migration push factor would again become operative. Therefore, the continuation of IDSMT Programme with labour intensive projects and programmes, quite different from saddling capital intensive projects with surplus, cost raising manpower, should be given more emphasis during the Seventh Five Year Plan. It is inescapable fact for decentralised urban policy and for full utilisation of the investment made during the Sixth Five Year Plan.

#### STRENGTHENING ECONOMIC BASE OF THE SMALL TOWNS

Infrastructural employment is a time bound and casual phenomenon, but productive employment, e.g., installing an industry is a permanent kind of employment. The areas of productive employment areas in small and medium towns are consumer based domestic industries like handloom weaving, oil and paddy crushing, hand-knitted woollens, embroidery, shoe making, dairy development, poultry, etc. Besides, transport services ranging from manufacturing of transport vehicles, particularly local ones, to the manufacturing of their accessories for the operation and servicing also provide a good number of employment opportunities. In Sri Ganganagar, special mention may be made of handloom weaving industries, poultry farming and transport including rickshaw manufacturing and in Trichur cocount oil crushing, rice milling and fishing, etc. These are productive employment areas in which employment oriented economic programmes could be planned to strengthen economic base of small and medium towns.

## RAISING FINANCIAL LIMIT

Financial ceiling of Rs.40 lakh as the central assistance under the IDSMT programme over a span of 5 years might have been a financial over cautiousness on the part of central government in the initial stages but it has its own limitations and needs to be revoked. The 50 per cent utilisation of IDSMT funds and 35 per cent of the project towns not showing even any progress (about 80 out of 235 towns) either demanded only first instalment or utilised less than Rs. 10 lakh bear testimony to this hypothesis. The poor utilisation of funds is one of the grounds supporting that: (i) either the towns lacked effort and guidance and/or (ii) resources, or both. But in the case of towns undertaken for the study, the financial constraints have come in a big way, resulting in the dropping of some of the projects already proposed to be undertaken, e.g., bus stand scheme in Sri Ganganagar. Further the town needed construction of a fly-over on railway crossing in Sri Ganganagar and installing of a high powered transmitter for efficient mass communication which could not be undertaken for want of financial resources in the wake of financial ceiling. It has defeated the basic objectives of the IDSMT programme and therefore, there is need of raising the financial upper limit.

## POPULATION CRITERION FOR THE SELECTION OF TOWN

Under the IDSMT programme, 235 small and medium towns having less than 1 lakh population were selected on the basis of 1971 census. But some of the towns selected for the programme have already crossed population limit of 1 lakh during 1981 census, e.g., Sri Ganganagar. In view of the above limitations, the base year need not be shifted to 1981; otherwise, such towns would not be included in the Seventh Plan. The towns already selected for development during the first phase of the programme and which have shown commendable progress, if they are deleted from inclusion in the Seventh Plan, it would be

an injustice to them, their morale would be shaken and tempo of development jeopardised. The growth and development tempo of such towns should therefore be sustained, otherwise, it would defeat the very purpose of decentralised urban policy.

#### OPERATIONAL AREA

The empirical analysis has proved that project management could be more effective if its jurisdiction, i.e., 'operational area' is extended upto hinterland, since IDSMT involves the concept of hinterland development also. Municipalities' operational area is confined to the municipal limits only. This comes not only in the way of effective execution of IDSMT programme but also in integrating and establishing linkages with the hinterland. The IDSMT project management should be vested either in urban developmental bodies like UIT or the operational area of the municipality should be extended beyond the municipal limits. The IDSMT programme implementation in Sri Ganganagar has been more effective than Trichur because in the former project management rested with the Trust, while in the latter, with the municipality.

The management and economic feasibility of the two bye-passes in Trichur (Ernakulam and Shornur) could have been more effective and stronger, had they been constructed by the TUDA. The TMC has not been able to construct the two recommended by-passes (Chapter 8, projects 4 and 5) because land was not within the municipal limits. It could therefore be recommended that either the development bodies should be given the management of the IDSMT Programme or the 'operational area' be extended beyond municipal limits, for the implementation of urban development programme.

#### NEED FOR SOCIAL SCIENTISTS

Association of social scientists could be helpful in the effective programme implementation. In Sri Ganga-

nagar, such necessity was felt by the project management. Indeed, for assessing the economic feasibility, pre-testing any project, and predicting any unforeseen events, social scientists could be of great help. Most legal constraints, that were responsible for dropping of some of the projects, were the outcome of unforeseenness of the management. Had the legal opinion been sought beforehand and decision-making made stronger, such constraints could have been avoided. Legal constraints did not occur in Sri Ganganagar because the project management vested with UIT which had been a strong decision making body.

### INTEGRATION OF FINANCIAL INSTITUTIONS

Poverty alleviation is the prime goal of our plans. Financial assistance by the governments comes in the form of development activities which might help in providing infrastructures and creating employment. But, direct financial assistance is also available from banks and financial institutions in the form of loans. It has been observed that people were not fully aware of the bank loan schemes and sometimes, a number of restrictions like the problem of security, etc., came in the way. Such problems could be overcome by increasing awareness among people with the help of local initiatives and leadership and asking banks to grant loans on easier terms, for providing dwelling units and for other services to the economically weaker sections. Such programmes have been effectively implemented by local initiatives in Sri Ganganagar, although they do not necessarily form a part of the IDSMT schemes. In the event of state giving a guarantee to the banks to the sanctioned amount, the problem of getting the financial assistance and the problem of matching contribution by the state government can also be solved.

DEVELOPMENT ADMINISTRATION, PUBLIC RELATION  
AND COMMUNITY PARTICIPATION

In any project implementation, the canons of development administration demand community participation and public relations which are in-built mechanisms in the project management system, itself. The effective management and speedy delivery of services requires an efficient management of development administration and not the development of administration. In this process, public relations and community participation play a vital role as an effective instrument to create a set of integrated services for the area specific needs of a community and establish reinforcing linkages between social and economic development. The emphasis should be on creating a proper environment by providing adequate social and economic infrastructure as well as fill up the gaps and inadequacies. This calls for integration of area specific development objectives into cross - sectoral integration through the establishment of linkages and supports between fields for a 'participative development'. It is here that one enters in an area of people's need-based programme as against the government sponsored programmes. In the field of public relations, the UIT Sri Ganganagar had organised monthly public camps under the aegis of 20 - Point Economic Programme and door to door contacts were established in order to take the administration at one's door. This could be taken as a model for the public relations programme under the development administration of the IDSMT Programme.

The main thrust of physical and social inputs in area development programme is to build and enhance the capacity of community for promoting development and accessibility of services to improve the quality of life of people, the improved quality of life of people is expected to lead to the growth in productivity and income over time. The implementation of policies and programmes has to cut across conventional departmental or sectoral planning and budgetary procedures and has also to go through



the following management feasibility tests:

- (i) whether the supporting environment in the area of proposed development will sustain the activity;
- (ii) whether the existing development agencies both public and private have demonstrated their competence to carry out desired plan programmes;
- (iii) whether the existing management of delivery system is reliable to serve a development policy; and
- (iv) whether the enunciated programmes could be carried out within the stipulated time.

Within the precincts of these feasibility tests, the planning for development also requires planning for implementation.

#### PROJECTS OF STRATEGIC IMPORTANCE

Under the IDSMT programme, the two specific types of projects should also be incorporated, namely, (i) solid wastes management and general services, and (ii) development of mass media particularly in bordering towns.

For a quality of life and to keep a proper environmental sanitation, the management of general services programme should include the production of low cost toilet technology for the disposal of solid wastes, sewerage and proper drainage. In the absence of the latter, the Housing Project in Sri Ganganagar could not be undertaken because the town did not have any sewage disposal scheme. In Trichur also the scheme for the disposal of night soil with low cost technology was lying in doldrums. Because the state department did not clear the applications. Secondly, as a part of 'utility', solid-waste management could prove to be highly productive and its by-products could be utilised for agricultural purposes. The development of mass-media also does not form a component of the IDSMT programme. In Trichur, lack of propaganda has been found to be a major bottleneck in the lack of people's awareness about the programme. But, in bordering towns, like Sri Ganganagar,

a high powered TV transmission system has a strategic importance for national integration and cohesion. Sri Ganganagar is the country's strategic town bordering Pakistan and it did not have its own TV transmission till the end of June, 1984 although there were 25,000 registered TV owners in Sri Ganganagar district. The low power transmitter installed at Suratgarh at a distance of 25 kms from Sri Ganganagar, was accessible to 2,000 TV sets only. Other TV owners undoubtedly watch Pakistan's programme which at times is not desirable. The recent mini-mutiny and desertions in the Indian Army at Sri Ganganagar, according to the press reports, was the result of Pakistan TV's anti-India biased programme. Therefore, installation of a high powered TV transmission system in Sri Ganganagar and many other such bordering towns is of strategic importance. Likewise, in Sri Ganganagar, the construction of an overbridge on the Railway crossing, Gate No. C119, is also equally important. Besides, goods and passengers traffic disruption, Indian Army's vehicles are also kept at halt, whenever any train passes or shunting is done. The survey revealed that the Railway Gate is closed for about 30 times during span of 24 hours. The construction of a fly-over is further necessitated by the fact that there is high traffic load of Defence vehicles - Army, BSF and CRP passing through this Gate. Thus implementation of such projects is not only vital for the growth of the town but also necessary to meet the defence needs of the nation.

#### CONCEPTUAL OVERTONES OF INTEGRATION

The conceptual overtones of the programme should be clearly spelt out as the 'integration' has been lacking altogether. The evaluation study clearly indicates that the IDSMT programme has been conceived and implemented in terms of certain projects and the concept of integration was understood only in terms of implementing those projects for which the financial assistance was made available. The spatial dimension of the sectoral plan

has not been brought together by conceiving the programme in terms of 'multi-level' 'inter-sectoral' convergence of 'services' and their integration over the space.

Integrated development has its wider implications and goes much beyond the mere provision of services and infrastructure to the poverty pockets in the town with deprecable environmental conditions and in terms of enhancing the quality of life by adding or upgrading the services of the town. In order to make the programme a success, it is necessary to examine the implications of our total plan for economic development in all other sectors. If this is not done and the prescribed schemes are simply pursued, there is every danger of the programme becoming the one, where money is spent but the objectives are not realised.<sup>5</sup>

**REFERENCES**

1. Wishwakarma, R.K., **Unit Cost of Creating a Job in Central Government and Allied Undertakings: Its Employment Multiplier Effects and Implications**, Centre for Urban Studies, Indian Institute of Public Administration, New Delhi (1983).
2. The coefficient of multiplier of construction workers, as of 1981, a chief component of the economic activity, was stronger in smaller towns of Ghaziabad and Faridabad, (more than 12) than in metropolitan city of Delhi (about 7), *op. cit.*, pp. 120-21.
3. The unit cost of providing services as of 1980-81, excluding housing, was in Delhi - Rs.2, 980, Ghaziabad - Rs.1,590, Faridabad - Rs.1,285 and Gurgaon - Rs.990. The per unit housing cost of the central government was the same, Rs. 58,350, in all the places. But, this cost was relatively cheaper in medium towns if built by development authorities: Delhi - Rs.68,500, Ghaziabad - Rs.64,600; Faridabad - Rs.62,430, and Gurgaon - Rs.62,430, *op.cit.*, p. 165.
4. The unit cost of creating a job, as of 1980-81, in the central government was in Delhi, - Rs. 84,080, Ghaziabad - Rs. 81,240, Faridabad - Rs.74,935, and Gurgaon - Rs.72,825. The same cost in public undertakings was in Delhi - Rs.1,10,030, Ghaziabad - Rs.1,37,550, Faridabad - Rs.1,20,395 and Gurgaon - Rs.77,420. In spite of more job creation in central government in smaller towns, e.g. @ 16.5 per cent in Ghaziabad than 3.6 per cent in Delhi, the cost has been lower in government sector. But there has been higher cost in the public undertaking in smaller towns due to opening up of new banks, etc., where there has been a high capital investments during the reference period, *op.cit.*, p. 133 and p.159.

5. Dubhashi, P.R. stated while making concluding observations on the IDSMT Programme Administration in a National Seminar on Integrated Development of Small and Medium Towns (held in March 1982 at IIPA, New Delhi), in R.K. Wishwakarma and Gangadhar Jha, (eds.), **Integrated Development of Small and Medium Towns: Problems and Strategic Policy Issues**, IIPA, 1983, p.45.

## ANNEXURES



### Annexure 1

#### Distribution and Growth of Urban Population by Size-Range in India 1961-81

Town Classification by Size-Range	Percent Urban Population			Percent Annual Growth Rate	
	1961	1971	1981	1961-71	1971-81
(1)	(2)	(3)	(4)	(5)	(6)
Class I (1 lakh +)	50.8 (102)	56.2 (145)	60.4 (216)	4.32	4.60
Class II (50,000 to 100,000)	11.0 (129)	11.2 (178)	11.6 (270)	3.49	4.22
Class III (20,000 to 50,000)	17.4 (449)	16.3 (570)	14.4 (739)	2.60	2.53
Class IV (10,000 to 20,000)	13.0 (732)	11.2 (847)	9.5 (1048)	1.74	2.10
Class V (5,000 to 10,000)	7.0 (739)	4.6 (641)	3.6 (742)	-1.09	1.45
Class VI (Less than 5,000)	0.8 (179)	0.5 (150)	0.5 (230)	-2.18	4.86
Total	100.0 (2330)	100.0 (2531)	100.0 (3245)	3.78	4.60
Total Urban Population (Million)	77.6	107.0	156.2	3.78	4.60

**Source:** Census of India 1981 - Provisional Population Total Series-I Paper 2 of 1981.

**Notes:** Figures excluding Assam and Jammu & Kashmir.

Constituent towns of urban agglomerations are not counted as separate units.

Figures in brackets are the number of towns in each size class.



## Annexure 2

### Distribution of Urban Population and Town by States and Size-Range covered under IDSMT Programme, as of 1981 Census

States/Union Territories	(Population in Lakhs)													
	Class I	Class II	Class III	Class IV	Class V	Class VI	All Classes							
	Nos.	Pop.	Nos.	Pop.	Nos.	Pop.	Nos.	Pop.	Nos.	Pop.	Nos.	Pop.	Nos.	Pop.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
<b>States</b>														
Andhra Pradesh	5	5.58	8	6.73	5	1.54	-	-	-	-	-	-	18	13.85
Assam	1	1.24	3	2.27	1	0.47	-	-	-	-	-	-	5	3.98
Bihar	4	4.63	8	4.98	3	1.04	-	-	-	-	-	-	15	10.65
Gujarat	2	2.20	10	6.31	4	1.63	1	0.14	-	-	-	-	17	10.28
Haryana	2	2.63	1	0.89	3	1.38	-	-	-	-	-	-	6	4.90
Himachal Pradesh	-	-	1	0.71	-	-	-	-	-	-	-	-	1	0.71
Jammu & Kashmir	-	-	-	-	1	0.34	-	-	-	-	-	-	1	0.34
Karnataka	2	2.33	5	3.46	6	1.67	2	0.36	1	0.07	-	-	16	7.89
Kerala	-	-	6	3.96	2	0.80	1	0.18	-	-	-	-	9	4.94
Madhya Pradesh	3	3.89	6	4.38	3	1.12	1	0.20	-	-	3	0.14	16	9.73
Maharashtra	1	1.22	8	5.46	12	4.06	1	0.17	-	-	-	-	22	10.91
Manipur	-	-	-	-	1	0.21	1	0.15	-	-	-	-	2	0.36
Meghalaya	1	1.08	-	-	1	0.35	-	-	-	-	-	-	1	1.43
Nagaland	-	-	-	-	1	0.36	-	-	-	-	-	-	1	0.36

Orissa	2	2.11	3	2.15	1	0.36	-	-	-	-	-	6	4.62
Punjab	3	3.34	4	2.92	1	0.46	-	-	-	-	-	8	6.72
Rajasthan	3	3.47	3	2.06	4	1.32	1	0.15	-	-	-	11	7.00
Sikkim	-	-	-	-	-	-	-	-	1	0.04	1	1	0.04
Tamil Nadu	-	-	18	12.21	10	3.85	1	0.17	-	-	29	1	16.23
Tripura	-	-	-	-	-	-	1	0.16	-	-	1	1	0.16
Uttar Pradesh	1	1.05	18	12.73	3	0.86	-	-	0.08	1	N.A	23	14.72
West Bengal	3	4.19	12	9.19	4	1.57	1	0.16	-	-	-	20	15.11
<b>Union Territories</b>													
A & N Island	-	-	-	-	1	0.50	-	-	-	-	-	1	0.50
Andaman and Nicobar	-	-	-	-	-	-	-	-	-	-	-	-	-
Chandigarh	-	-	-	-	-	-	-	-	-	-	-	-	-
Dadra & N. Haveli	-	-	-	-	-	-	-	-	-	-	-	-	-
Goa, Daman & Diu	-	-	1	0.77	-	-	-	-	-	-	-	1	0.77
Mizoram	-	-	1	0.74	-	-	-	-	-	-	-	1	0.74
Pondicherry	-	-	-	-	1	0.43	-	-	-	-	-	1	0.43
<b>TOTAL</b>	<b>32</b>	<b>38.96</b>	<b>116</b>	<b>81.92</b>	<b>69</b>	<b>23.97</b>	<b>11</b>	<b>1.84</b>	<b>2</b>	<b>0.15</b>	<b>5</b>	<b>0.18</b>	<b>147.36</b>

### Annexure 3

#### Progress of IDSMT Programme and Per Capita Development Expenditure, as on 31st March, 1984

State/Union Territories	Towns taken over for IDSMT upto 79-85	(1)	(2)	(3)	Population covered under IDSMT towns (in lakhs)			Percentage of population of IDSMT towns total urban pop. during 79-84			Total amount released by central govt. during 79-84 (Rs.in lakh)	Per capita development expenditure borne by centre as per population 1981 1984 (Amount in Rs.)		
					1971	1981	1984	1971	1981	1984		(10)	(11)	(12)
States														
Andhra Pradesh	18	18	9.40	13.85	15.82	11.18	11.09	11.06	323.55	23.36	20.45	43.72	37.58	25.26
Assam	5	5	2.58	3.98	4.63	19.43	19.86	19.86	174.04	25.26	21.96	31.09	28.28	19.38
Bihar	15	15	7.11	10.65	12.24	12.62	12.21	12.06	269.00	19.38	16.90	39.60	37.00	14.70
Gujarat	17	17	7.73	10.28	11.30	10.31	9.69	9.48	319.63	25.69	22.78	49.78	46.48	23.88
Haryana	6	6	3.29	4.90	5.62	18.57	17.33	16.07	95.00	23.88	21.14			
Himachal Pradesh	1	1	0.55	0.71	0.76	22.72	21.74	21.11	28.12					
Jammu & Kashmir	2	1	.28	0.34	0.36	3.26	2.69	2.50	5.00					
Karnataka	16	16	5.52	7.89	8.90	7.75	7.35	7.20	202.70					
Kerala	9	9	4.42	4.94	5.29	12.75	10.35	9.96	245.90					
Madhya Pradesh	16	16	6.60	9.72	10.98	9.73	9.12	8.87	232.09					

Maharashtra	22	22	8.67	10.91	11.76	5.52	4.96	4.77	586.92*	53.80	49.90
Manipur	2	2	NA	0.36	0.45	NA	9.65	8.01	9.10	25.28	20.22
Meghalaya	2	2	1.03	1.43	1.59	70.06	59.33	55.59	18.90	13.22	11.89
Nagaland	1	1	0.22	0.36	0.43	43.14	30.00	25.44	10.00	27.77	23.25
Orissa	6	6	2.85	4.62	5.49	15.42	14.85	14.64	147.27	31.88	26.83
Punjab	8	8	4.18	6.72	7.94	13.00	14.46	15.07	334.50*	49.78	42.13
Rajasthan	11	11	4.86	7.00	7.93	10.70	9.71	9.35	374.05*	53.44	47.16
Sikkim	1	1	NA	0.04	0.06	-	0.07	0.10	5.50	137.50	91.66
Tamil Nadu	28	29	12.79	16.23	17.55	10.26	10.17	10.14	646.07	39.80	36.81
Tripura	2	1	NA	0.16	0.18	-	7.08	6.82	17.00	106.26	94.44
Uttar Pradesh	24	24	10.21	14.72	16.76	8.24	7.40	7.11	390.10	26.50	23.28
West Bengal	20	20	10.93	15.11	16.84	9.77	10.45	10.87	267.95	17.73	15.91
Union Territories											
A and N Island	1	1	0.26	0.50	0.63	10.00	100.00	100.00	25.00	50.00	39.68
Arunachal	1	-	not covered	-	-	-	-	-	-	-	-
Dadra & N Haveli	1	-	not covered	-	-	-	-	-	-	-	-
Goa, Daman & Diu	1	1	0.35	0.77	1.04	15.00	21.87	26.74	30.50	29.61	29.32
Mizoram	1	1	0.38	0.74	0.95	-	60.65	71.96	22.50	30.40	23.68
Pondicherry	1	1	0.26	0.43	0.52	13.13	13.60	13.98	4.00	9.30	7.69
TOTAL (States/ UTs)	237	235	104.47	147.36	166.02	9.57	9.23	10.23	4784.39	32.46	28.82

Note: 1 Population figures for 1984 are the projected figures.

2 Population figures of Assam for 1981 are the projected figures where census could not be held.

\* It includes a sum of Rs. 42 lakh for low-cost sanitation in towns of Maharashtra, Rs. 80 lakh for Punjab and Rs. 48 lakh for Rajasthan.

**Annexure 4**  
**Table of Discriminant Functions**  
**for Investment**

C. Fns./D.Var. (Xj)	Intercept	VAD/COST	VOC/COST	NVH
OC < 10%	-0.9578	0.9468	1.8208	0.0030
OC > 10%	-2.8781	3.5316	6.6145	0.0065
OC < 12%	-0.9854	1.1360	2.5682	0.0032
OC > 12%	-3.5966	1.5175	7.4534	0.0081
OC < 14%	-1.0583	1.2961	2.7691	0.0035
OC > 14%	-3.7513	4.7669	7.9137	0.0080
OC < 16%	-1.1385	1.7231	3.4284	0.0040
OC > 16%	-4.8954	6.0738	9.5772	0.0107

**Note:** C.Fns. = Classification Functions  
D.Var. = Discriminating Variables (Xj)  
OC = Opportunity Cost of Capital  
VAD = Value added  
VOCS = Vehicle Operating Cost Savings  
NVH = Net Agricultural Value Per Hectare

## Annexure 5

### Opinion Schedule

**Project: Integrated Development of Small and Medium Towns: Programme Implementation - Its Evaluation and Impact-Analysis**

Name ----- Town -----

Designation/Profession----- Date of Interview

1. In what way you are associated with the IDSMT Scheme?
2. Did you join the scheme from the very beginning or at some stage, later on?
3. Do you think that the IDSMT has been helpful in uplifting the socio-economic status of people and upgrading services in your town? If yes, in what way?
4. Do you have any kind of people's participation in your IDSMT programme? If yes, please give details and nature of participation.
5. Do you think that the IDSMT has been an integrated and communityaction-oriented programme? If yes, how?
6. In your opinion, which of the schemes under the IDSMT has proved to be most successful in your town?
  - (i) centrally assisted schemes,
  - (ii) state financed schemes, and
  - (iii) locally financed schemes.
7. Will you please specify any such scheme on priority grounds which has not been included but it should have been included under the IDSMT programme?
8. Do you think that solid wastes management should have been one of the components of the programme? If yes, how? Please explain.
9. In your opinion, who are the real beneficiaries of the IDSMT schemes?
10. Do you think any scheme under the IDSMT programme has faced peoples' resistance? If yes, please explain the nature and social forces of resistance?
11. In your opinion what are the impediments which have checked the pace of development activities of the

IDSMT programme? Please explain the nature of the problems as stated below:

- (a) Administrative
    - (i) Administrative co-ordination, delayed decision
    - (ii) Functional fragmentation
    - (iii) Any other
  - (b) Technical
    - (i) Selection of the Town
    - (ii) Technical incapability
    - (iii) Any other
  - (c) Financial
    - (i) Central assistance
    - (ii) Matching grant
    - (iii) others
  - (d) Any other
12. Do you think that IDSMT programme should continue during the Seventh Five Year Plan? If yes, in what way?
13. What are your impressions about the IDSMT programme? Please explain and give your assessment.

## Annexure 6

### People's Schedule

**Project: Integrated Development of Small and Medium Towns: Programme Implementation: Evaluation and Impact Analysis**

(Instruction: The Field Officer should use the given code and insert in the box before each question. The Field Officer is expected not to be mechanical, while interviewing respondent. The Interviewer may also probe the respondent and note the specific points of observations made by the respondent.)

Name: \_\_\_\_\_

Occupation: \_\_\_\_\_

Address: \_\_\_\_\_

#### A.1

1. Name of the scheme to which you (would) belong, Fish Market-1, Rehabilitated/ Residential-2, Road Development-3, Others-4. \_\_\_\_\_
  2. Name of the area to which you belong, Fish Market-1, Erattachira-2, Shornur-3, Ring Road-4, Link Road-5, Others-6. \_\_\_\_\_
  3. Do you think that the town lacked a central fish market? (Yes-1, No -2, NA/DK-3) \_\_\_\_\_
  4. What is the distance of fish market from your residence? (in kms.) \_\_\_\_\_
- |             |       |
|-------------|-------|
| Existing    | _____ |
| Fish Market | _____ |
5. Do you find site selection of the planned fish market as good? (Yes-1, No.-2, NA/DK-3) \_\_\_\_\_
  6. What is your opinion about the size of shops? Is it sufficient or an ideal size? (Yes-1, No-2, NA/DK-3) \_\_\_\_\_



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7. What is your opinion about the services (to be) provided in the shops? (Good-1, Middle-2, Bad-3) \_\_\_\_\_
8. What is your impression about the material used and quality of shops? (Good-1, Middle-2, Bad-3). \_\_\_\_\_
9. Would you please tell how much monthly income you earn from fish marketing (in Rs.) \_\_\_\_\_
10. (a) On getting a shop in the fish market, would your (or, fish sellers) income increase? (Yes-1, No-2, NA/DK-3) \_\_\_\_\_  
(b) Please give the approximate likely increase in income (in Rs.) \_\_\_\_\_

A.2

11. What is your opinion about the service road in the fish-market? (Good-1, Fair-2, Bad-3) \_\_\_\_\_
12. Do you find its real usefulness? (Yes-1, No-2, NA/DK-3) \_\_\_\_\_
13. In your view, who would be most benefited by this road? Kindly rank them in order. Shopkeeper-1, Buyer-2, Vehicle Owner-3, Others-4 (Note-Define 'others') \_\_\_\_\_

A.3

14. Will you please tell us about the necessity of parking-complex in the fish market? (very much-5, much-4, not much-3, not-2, entirely not-1) \_\_\_\_\_
15. Would the parking complex remove the problem of parking and reduce traffic congestion? (Yes-1, No-2, NA/DK-3) \_\_\_\_\_
16. Do you think that centralisation of fish market, service road and parking complex will increase fishing trade? (Yes-1, No-2, NA/DK-3) \_\_\_\_\_

B.1

17. (a) Are you living in own-1 or rented house? -----  
(b) If own, how much did you spend in purchasing your house or construction? (in Rs.) -----
18. How many rooms are there in your house? -----
19. (a) Before occupying your present accommodation had you been in Trichur? (Yes -1, No-2). -----

- (b) If yes, location \_\_\_\_\_  
 If no, name of the town \_\_\_\_\_  
 State \_\_\_\_\_
20. If rented, how much rent are you paying for your residential house (in Rs.) \_\_\_\_\_
21. Service facilities enjoyed by you within your house (Write 1 if yes, and 2 if no)

	Services	Existing	Previously
(a)	Electricity	_____	_____
(b)	Own Tap	_____	_____
(c)	Shared Tap	_____	_____
(d)	Kitchen	_____	_____
(e)	Bath room	_____	_____
(f)	Latrine	_____	_____

22. Indicate the standard of Services (Good-1, Fair-2, Bad-3)

	Services	Existing	Previously
(a)	Electricity	_____	_____
(b)	Own Tap	_____	_____
(c)	Shared Tap	_____	_____
(d)	Kitchen	_____	_____
(e)	Bath room	_____	_____
(f)	Latrine	_____	_____

23. Would you please tell us the standard of your present house? (Good-1, Fair-2, Bad-3) \_\_\_\_\_
24. (a) Pay occupying the present house whether your expenditure pattern has increased? (Yes-1, No-2) \_\_\_\_\_  
 (b) If yes, indicate such items and the amount \_\_\_\_\_
25. What community facilities are available in your neighbourhood (indicate also the distance in metres). (Write 1 if yes, 2 if no)

	Yes/No	Distance
(a) Park and Playground	_____	_____
(b) Community Centre	_____	_____
(c) Nursery and Primary Schools	_____	_____
(d) Health	_____	_____
(e) Post Office	_____	_____
(f) Bank	_____	_____
(g) Garage Place	_____	_____

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26. (a) What is the distance of your work place from your residence?(in kms.) \_\_\_\_\_

(b) What type of transport do you use \_\_\_\_\_

27. (a) Will you please indicate whether general prices have comparatively increased now than they were before 1980? (Yes-1, No-2) \_\_\_\_\_

(b) On particular items the percentage change in: \_\_\_\_\_

(i) House rents \_\_\_\_\_

(ii) Price of land \_\_\_\_\_

**B.2**

28. Do you think that bye-pass roads were necessary for the town (Yes-1, No-2, NA/DK-3) \_\_\_\_\_

29. Please state how much distance has been reduced in your case by this bye-pass (in kms.) \_\_\_\_\_

(a) Erattachira \_\_\_\_\_

(b) Shornur \_\_\_\_\_

30. What is your impression about these bye-pass roads (Good-1, No change-2, Bad-3) -----

**C.**

31. Do you think that people should be incorporated in development activities (Yes-1, No-2)

If yes, how \_\_\_\_\_

If no, why \_\_\_\_\_

32. What is your level of satisfaction by the development activity, particularly the IDSMT schemes? (Very Good-5, Good-4, Neither good nor bad-3, Poor-2, Very poor-1) \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Signature of Field Officer

